

THE FRONT LINE OF FREEDOM  
BRITISH FARMING IN THE SECOND WORLD WAR



Agricultural modernity in a traditional setting. Ploughing at Ramsbury, Wiltshire, May 1940.

Source: MERL, *Farmers Weekly Picture Library*, FW P59.

# The front line of freedom

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## *British Farming in the Second World War*

*edited by*

Brian Short, Charles Watkins and John Martin

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# Preface

The journalist C. Henry Warren wrote in 1941 that 'England's might is still in her fields and villages, and though the whole weight of mechanized armies roll over them to crush them, in the end they will triumph.'<sup>1</sup> Such sentiments abounded as the threats of invasion and war produced images of peaceful, stable, yet unyielding countrysides which portrayed the nationalism of 'authentic' or 'deep' England.

In years of external threat, such a countryside was also portrayed as unified across classes, across gender relations, between employers and employees. In this 'people's war' perhaps only the town-country divide remained.<sup>2</sup> And yet, during the annual November service of remembrance at the Cenotaph, it is striking that there is no mention of the contribution of the agricultural community to the war effort of 1939–45. The only representation is that of the Women's Land Army and Timber Corps, which has been belatedly included from November 2000. Elsewhere in the broadcast commentaries it is generally acknowledged that the war penetrated deeply into the social fabric of Britain, leaving no place or person untouched. This volume, written in the sixtieth anniversary year of the ending of the Second World War, seeks to remedy this oversight.<sup>3</sup>

This book is concerned with the production of crops and livestock rather than the consumption or rationing of food supplies.<sup>4</sup> The approach we have taken cannot be one of unstinting praise and the recounting of heroic undertakings, but rather an attempt to separate the reality of country living in wartime from the mythology that sometimes surrounds it – a mythology generated both intentionally and unintentionally in large measure by the contemporary and near-contemporary imagery of the official and semi-official publications. A. G. Street complained in 1944 in his forthright manner to similar effect:

I'm fed up to the teeth with those people who bleat about farming being a charmed way of life and of farmers being such good fellows, don't you know, so unspoilt ... Take it from me that as long as farming here is treated politically as a charming way of life it will remain a hopeless way of misery ... If you think those chaps in the Eighth Army are coming back to

<sup>1</sup> C. Henry Warren, *England is a village* (1941), p. ix.

<sup>2</sup> S. O. Rose, *Which people's war? National identity and citizenship in Britain 1939–1945* (2003), pp. 197–238.

<sup>3</sup> Throughout this volume much of the discussion of agricultural strategy at the national level applies to the whole of Britain, yet we are conscious that most of the sub-national level material, including the case

study chapters, relates to England and Wales. In part this reflects the emphasis of research to date upon these component parts of Britain, and the work still to be done on Scottish and Northern Irish responses to wartime conditions.

<sup>4</sup> See the three volumes by R. J. Hammond, *Food* (1951–62).

splash about in the dark up to their knees in muck with an oil lantern and for a low wage I don't.<sup>5</sup>

It is therefore a rather particular tribute to rural life, concentrating primarily on the farming community rather than on rurality and landscape more generally, and acknowledging the true complexity of wartime rural social and economic realities. There have been a few attempts previously to do so, notably Sadie Ward's *War in the countryside, 1939–45* (1988). It is in many ways a pity that the Cambridge *Agrarian Histories of England and Wales* conspicuously finish with Edith Whetham's volume which covers the years 1914–39. The Second World War years and their aftermath clearly were too recent when the series was being planned in 1956, and the project is now seen as completed. Nevertheless, as Joan Thirsk noted, the war galvanized interest in farming and its history, spurring on the formation of a British Agricultural History Society in 1953, and indeed the *Agrarian Histories* three years later.<sup>6</sup>

The first chapter in this present volume examines the broad historical context of British agriculture in the Second World War and explores the question of whether the changes might constitute a revolution. Chapters 2 to 6 are concerned with questions of productivity, intensification and innovation. John Martin and Paul Brassley explore the issues surrounding wartime productivity, while John Sheail demonstrates the importance of pest control at this time. Mark Riley notes how one innovation – the making of silage – faltered when faced with the realities of farming in part of upland Britain, the Peak District. Philip Conford shows how the enthusiasm for another potential innovation, that of organic farming, was severely retarded by the governmental insistence on short-term productivity, and arguably has only reclaimed a more prominent position in the late twentieth century. Brassley's chapter examines in detail the factors of production and changes in the wartime years. When put alongside the chapter by Sheail on wartime rodent control, a picture emerges which challenges earlier preconceptions. Brassley demonstrates that the total factor productivity changes were actually negative by the end of the war, with diminishing returns to inputs of labour, capital and possibly management, and Sheail reminds us that there were in fact great savings to be made by the unglamorous task of rodent and pest control. Indeed, the saving of over one million tons of food and feeding stuffs by pest control alone in 1941 was received by the Ministry with pleasure but also with a touch of alarm, since such resultant increases in output should not be seen to deflect the public from its task of intensification and arable expansion. Little was in fact done to publicize this saving, and more accurate surveys were not forthcoming.

Chapters 7 to 9 look more specifically at wartime changes in labour and machinery. Labour supply is further explored in two chapters: Richard Moore-Colyer examines the importance of prisoner-of-war labour, while the role played by the Women's Land Army is investigated by Gill Clarke who uses oral and documentary history to uncover the realities of the women's contribution to the rural war effort. Peter Dewey examines in more detail than has hitherto been available the background to the crucial supply of tractors to British farming which paved the way for the unprecedented mechanization of the agricultural sector.

<sup>5</sup> A. G. Street, *Country magazine*, 23 Apr. 1944, BBC Home Service.

<sup>6</sup> Joan Thirsk, 'The British Agricultural History

Society and *The agrarian history of England and Wales: new projects in the 1950s*, *AgHR* 50 (2002), pp.155–63.

The role of the state in wartime agriculture and its social implications is the central theme of Chapters 10 to 13. Through local investigation rather than national generalization, as has been the case too often hitherto, Charles Rawding discusses the County War Agricultural Executive Committee (CWAEC) and farmer relations in part of south-west Lancashire; and Janet Waymark examines the interactions between landed proprietors and the CWAECs in Dorset. One grim feature of the period was the power possessed by the CWAECs to dispossess, in part or whole, farmers who were judged unable to produce the required output, and this situation, one very contrary to the myths of harmonious cooperation, is examined by Brian Short. William Foot's chapter examines the difficult issue of the conflicting land use requirements between the military authorities and the farming community. Exhortations to produce more food could frequently be nullified by the realities of wartime requisition of land for military purposes.

Chapters 14 to 16 look forward from the war years to the immediate postwar period. The role of the Ministry in planning for the future of rural land is taken up by Will Pilfold who examines the key actors engaged in such work, leading up to the Labour government's agriculture and planning legislation of 1947. And two final chapters demonstrate methodologies for the use of wartime sources of data in better understanding post-war rural change. Mark Riley and Charles Watkins examine the new ways of understanding and controlling rural land uses that were produced by wartime flows of information through the National Farm Survey and RAF aerial photographs. Nigel Walford also uses the National Farm Survey 1941–43 to look beyond the war years to examine the extent to which this excellent source of information can be made to yield analyses of the changing locations of farmers on the South Downs in the post-war period.

This book examines a crucial phase in British agrarian history, the birth of modern intensive agriculture, showing that the changes which took place during the war years were considerably more protracted and painful than has previously been acknowledged. The period was one of difficulty and danger, of uncertainties and mistakes, of shifting and negotiated power relations at all levels of society. But it heralded a move towards a farming policy which prioritized agricultural production the principles of which continued to dominate the government's approach to the sector throughout the post-war decades and which, albeit regionally discordant or temporally drawn-out, nevertheless yielded a recognisably modern farming.

## Notes on Contributors

PAUL BRASSLEY is Senior Lecturer in Rural History and Policy at the University of Plymouth. Most of his research has been concerned with agricultural history from the seventeenth to the twentieth centuries, and he has contributed to two volumes of the Cambridge *Agrarian History of England and Wales*. He has also served on the Council of the Royal Society for Nature Conservation, and is currently chairman of the British Agricultural History Society. His books include *Agricultural economics and the CAP: an introduction* (1997).

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PHILIP CONFORD has established himself as a leading authority on the organic farming movement in twentieth-century Britain. He has published several papers on this theme, including in the *Agricultural History Review* and *Rural History*. The author of *The origins of the organic movement* (2001), he is a Visiting Research Fellow in the Department of History at the University of Reading.

PETER DEWEY was Reader in Economic History at Royal Holloway, University of London, before taking early retirement in 2002. A member of the Executive Committee of the British Agricultural History Society (1987–2002) and Secretary of the BAHS 1998–2002, his publications include articles in the *Agricultural History Review*, *Economic History Review*, *Historical Journal*, and *Agricultural History* (USA). He is the author of *British agriculture in the First World War* (1989) and *War and progress: Britain 1914–1945* (1997). He continues research into the history of the agricultural engineering industry, and has forthcoming *The making of farm machinery: the British agricultural engineering industry 1800–2000* (Carnegie Publishing, Lancaster).

WILLIAM FOOT followed an earlier career in publishing, before moving to the Public Record Office (now The National Archives), where from 1986–1997 he specialized in military records and cartography, writing the PRO's *Maps for family history* (1994). He was seconded to the University of Sussex 1994–95 on an ESRC-funded project to evaluate the records of the National Farm Survey, and an M.Phil was awarded in 1999 entitled 'The impact of the military on the agricultural landscape of Britain in the Second World War'. He moved to the Council for British Archaeology's award-winning 'Defence of Britain Project' 1998–2002 as Database Manager, and was a consultant on Second World War defence landscapes to English Heritage. His *Beaches, fields, streets and hills: the anti-invasion landscapes of England, 1940* was published in 2006.

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RICHARD MOORE-COLYER is Emeritus Professor of Agrarian History in the Department of History at the University of Wales, Aberystwyth. He is the author of four books and almost one hundred articles on a wide variety of aspects of the agrarian, social and cultural history of rural England and Wales. His current research interests include the agrarian history of the English Midlands in the eighteenth and nineteenth centuries, the history of the horse in Britain, a large-scale project looking at a range of aspects of life on the Home Front, and the cultural history of inter-war rural England. In the latter context, he is at present working on the philosophies of H. J. Massingham, Rolf Gardiner, Henry Williamson and other right-wing ruralist writers and thinkers of the period 1920–1960, with particular respect to their role in the development of organicist thought.

WILL PILFOLD is a Lecturer in Continuing Education (Historical Geography) in the Centre for Continuing Education, University of Sussex. His research interests relate to landscape history and conservation, particularly in a British context, and especially the histories of agriculture and conservation and the cultural contexts of English landscapes. His doctoral thesis (2005) concerned the life and work of the twentieth-century British geographer Sir L. Dudley Stamp, well known for his land use studies, planning and resource management interests and as a prolific writer of school textbooks.

CHARLES RAWDING is Geography PGCE course leader at Edge Hill University in Ormskirk. His research interests lie in geographical education and rural historical geography. As part of his role as a teacher trainer, he has published extensively in *Teaching Geography*. His doctoral research, undertaken at the University of Sussex, was on the historical geography of the Lincolnshire Wolds, and he has published a number of books and articles relating to the Wolds. Since moving to Ormskirk he has begun researching historical geographies of the north west of England.

MARK RILEY is Lecturer in Geography at the University of Portsmouth. Prior to this he was a Research Fellow in the AHRC Centre for Environmental History at the University of St Andrews, and his doctoral research at the School of Geography, University of Nottingham was on changing agricultural practices and environmental history. He is particularly interested in the place of agricultural history in informing current discussions of countryside conservation and environmental management.

JOHN SHEAIL is a Research Fellow of the Centre for Ecology and Hydrology (Natural Environment Research Council). Prior to his retirement, he was Deputy Head of the Centre's Monks Wood site. An environmental historian, he has published widely in the fields of historical ecology, planning history and the interface historically between environmental research and policy making. His most recent book was *An environmental history of twentieth-century Britain* (2002).

BRIAN SHORT is Professor of Historical Geography at the University of Sussex. His research has focused on rural change in later nineteenth and twentieth century British society, economy and landscape. Publications include *The English rural community: image and analysis* (1992), *Land and society in Edwardian Britain* (1997), and *The National Farm Survey, 1941–1943* (with Charles Watkins, William Foot and Phil Kinsman) (2000). He was a contributor to volumes V and VII of the *Cambridge Agrarian History*



of England and Wales. He also has a deep interest in south east England, publishing the co-authored *The South East from AD 1000* (1990), the co-edited *Historical atlas of Sussex* (1999), and *England's landscape: the South East* (English Heritage 2006).

NIGEL WALFORD is Professor of Applied Geographical Information Systems in the School of Earth Sciences and Geography at the University of Kingston. His ESRC-funded research project 'Agricultural policy adjustment: responses by large scale farm businesses' made use of National Farm Survey (1941–43) data with a re-analysis of survey data collected in 1978 and a contemporary 1998/9 survey. His publications include *Geographical data analysis* (1995), the co-edited *Reshaping the countryside: perceptions and processes of rural change* (1999), *The development of large-scale commercial farming in south-east England* (2000) and *Geographical data: characteristics and sources* (2002).

CHARLES WATKINS is Professor of Rural Geography and currently Head of the School of Geography at the University of Nottingham. His principal research and teaching interests include landscape history, rural land management and the conservation of nature. His books include *Woodland management and conservation* (1990) and *The National Farm Survey, 1941–1943* (with Brian Short, William Foot and Phil Kinsman) (2000) and he has edited *European woods and forests: studies in cultural history* (1998) and co-edited *Ligurian landscapes: studies in archaeology, geography and history* (2004). He has co-edited a critical edition of the letters of Uvedale Price (1747–1829) for the Walpole Society (2006) and is working on an AHRC-funded study on nineteenth-century tree collections.

JANET WAYMARK completed her London University doctoral thesis in 1995 on landed estates in Dorset, noting that their present-day survival is strongly linked to their agricultural histories. Since then her interests have moved towards garden history, which she now teaches at Birkbeck, University of London, at MA level. She has written *Modern garden design: innovation since 1900* (Thames & Hudson, 2003), and is working on a history of Thomas Hayton Mawson. She currently runs the History of Gardens and Landscapes seminars at the Institute of Historical Research.



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# Abbreviations

<i>AgHR</i>	<i>Agricultural History Review</i>
<i>AJMA</i>	<i>Agriculture. Journal of the Ministry of Agriculture</i>
CAC	County Agricultural Committee (inter-war local authority committees)
CAEC	County Agricultural Executive Committees (created from the CWAEC, 1947, abolished 1972)
CSO	Central Statistical Office
CWAEC	County War Agricultural Executive Committee
<i>DNB</i>	<i>Dictionary of National Biography</i>
FRA	Farmers' Rights Association
<i>FW</i>	<i>Farmers Weekly</i>
<i>JRASE</i>	<i>Journal of the Royal Agricultural Society of England</i>
<i>JRSA</i>	<i>Journal of the Royal Society of Arts</i>
MAF	Ministry of Agriculture and Fisheries: records of the Ministry and successor bodies held at the National Archives
MERL	Museum of English Rural Life, University of Reading
Murray, <i>Agriculture</i>	K. A. H. Murray, <i>Agriculture</i> (History of the Second World War, United Kingdom civil ser., 1955)
NFS	National Farm Survey
ODNB	<i>Oxford Dictionary of National Biography</i> (2004: available in both print and on-line versions)
<i>PD</i>	<i>Parliamentary Debates Commons/Lords</i>
<i>PP</i>	<i>Parliamentary Papers</i>
POW	Prisoner of war
Short <i>et al.</i> , <i>National Farm Survey</i>	B. Short, C. Watkins, W. Foot and P. Kinsman, <i>The National Farm Survey, 1941–43: state surveillance and the countryside in England and Wales in the Second World War</i> (2000).
TNA	The National Archives, Kew (formerly the Public Record Office)
WAEC	See CWAEC
WLA	Women's Land Army

# ‘The front line of freedom’: state-led agricultural revolution in Britain, 1939–45<sup>\*</sup>

by Brian Short, Charles Watkins and John Martin

## *Abstract*

This chapter examines the extent to which the changes brought to British agriculture in the Second World War constituted a state-led agricultural revolution. It sets wartime changes in a broader historical context and considers contemporary assessments of agricultural change. It concludes that although there was no large-scale land reform or adoption of new crops and livestock breeds, scientific and high-production methods were promoted very successfully and the attitudes of many farmers were irreversibly changed.

The state-directed food production campaign of the Second World War had a greater and more immediate impact on British farming than any previous state intervention. Within the space of a mere five years, British agriculture was transformed from a predominantly pastoral system of low input, low output farming to a ‘national farm’ dominated by intensive arable farming, heavily dependent on inputs such as fertilizers and machinery acquired from outside the agricultural sector. The emergence of a productivist, state-directed regime was widely hailed by contemporaries as an unqualified success story. It was enshrined in the 1947 Agriculture Act, which formally established the principles on which the state was to intervene in the agricultural sector until Britain’s entry into the European Community in 1973. But the longer-term legacy of wartime control was arguably to encourage the development of a subsidized, protected agriculture, producing food with scant regard for the ecological, aesthetic or economic costs involved.

## I

Debates over the timing, processes and consequences of an ‘agricultural revolution’ were lively in the 1960s and 1970s. There are three main contenders for periods where agricultural changes were acute and pervasive enough to be termed revolutionary. First, the sixteenth and seventeenth centuries, placed by Kerridge mostly between 1560 and the 1670s. Second, the ‘classic’ eighteenth and nineteenth centuries, championed originally by Ernle, subsequently by Chambers and Mingay, and more recently by Overton, Allen, and Neeson. Most recently of all Turner *et al.* have

<sup>\*</sup> ‘We rely on the farmers. We depend on the efforts they put forth in the fields of Britain ... Today the farms of Britain are the front line of freedom,’ Winston Churchill, speech to the National Farmers’ Union, 14 Oct. 1940, cited in S. Foreman, *Loaves and fishes: an illustrated history of the Ministry of Agriculture, Fisheries and Food, 1889–1989* (1989), p. 33.

argued for the first half of the nineteenth century. Thirdly, it is also possible, as F. M. L. Thompson has argued, to discern an agricultural revolution covering the mid-late nineteenth century, when applications of the 'artificial' and improved technologies, 'broke the closed circuit system and made the operations of the farmer much more like those of the manufacturer'.<sup>1</sup>

To what extent do twentieth-century changes match any or all of these three periods in magnitude or speed of change? Is it possible to demonstrate an equivalence or non-equivalence in 'sustained growth acceleration'? One of the chief difficulties in historians' attempts to argue for one or other of the above periods is that the criteria used to define 'revolution' have differed. Some have defined revolution in various combinations of technical change, productivity and intensification, some in terms of spatial expansion and changes in the social and institutional relations of agricultural production, others by the move towards agrarian capitalism. Should an 'agricultural revolution' be defined internally by changes within farming itself? Or should it be related, for example, to the impact on wider society, economy and landscape?

It is of relevance to our present concerns to note that during the latter stages of the French and Napoleonic wars (1793–1815), the 'classic' agricultural revolution was boosted by the diminution in food imports which led to a virtual trebling of wheat prices, raising the Malthusian spectre of famine following a shortfall in the cereal harvest. Enclosure and changes in land tenure were seen as key methods to increase productivity at that time and as a result, an estimated 2.9 million acres of land were enclosed during the French and Napoleonic wars, which contributed to increasing the arable acreage by approximately 20 per cent.<sup>2</sup>

## II

Wars lead to changes in the social and spatial relations of production. And in the free market conditions of the time, many farmers prospered in what for them was a 'good war' by reacting strategically to price changes. The same could be said of the period of the First World War which saw the diminution of food imports and sharp rises in agricultural prices. Following Lloyd George's appointment as Prime Minister in 1916 and that of Lord Rhondda as Food Controller, the state implemented a food production strategy intended to raise agricultural output by a ploughing-up campaign. This was accompanied by a raft of measures designed to increase productivity by the allocation of scarce resources such as labour to agriculture, and to modernize the agricultural sector by the provision of tractors and other machinery. In spite of the fact that Britain's food supplies were down at one point to less than six weeks' supply, and that price rises for staple foods such as bread and potatoes were rampant, the overall wartime increases in the tillage area were quite limited, amounting to less than one million acres (See Figure 1.1.).

<sup>1</sup> E. Kerridge, *The agricultural revolution* (1967); J. Beckett, *The agricultural revolution* (1990); J. D. Chambers and G. E. Mingay, *The agricultural revolution* (1966); M. Overton, *Agricultural revolution in England: the transformation of the agrarian economy, 1500–1850* (1996); R. C. Allen, 'The two English agricultural revolutions, 1450–1850' in B. Campbell and M. Overton (eds), *Land, labour and livestock* (1991), pp. 236–54; J. M. Neeson,

*Commoners, common right, enclosure and social change in England, 1700–1820* (1993); M. E. Turner, J. V. Beckett and B. Afton, *Farm production in England, 1700–1914* (2001); F. M. L. Thompson, 'The second agricultural revolution', *EcHR* 21 (1968), pp. 62–77.

<sup>2</sup> M. Turner, *Enclosures in Britain, 1750–1830* (1984), p. 18.

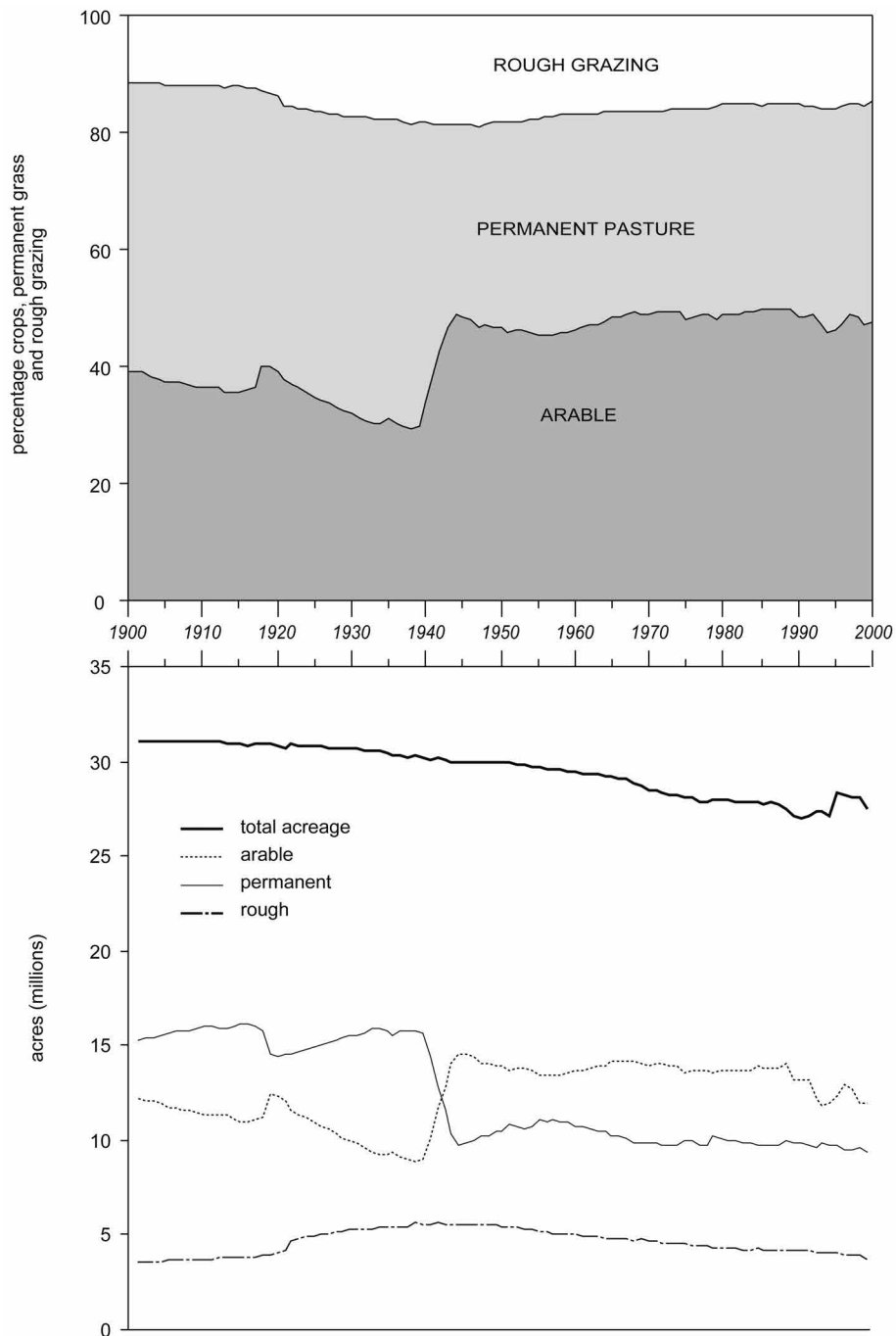


FIGURE 1.1. Agricultural land use change 1900–2000 in England and Wales.

(a) percentage of arable, permanent pasture and rough grazings

(b) total acreage of arable, permanent pasture and rough grazings.

Source: R.H.Best, *The major land uses of Great Britain* (1959), Appendix 1; *Agricultural statistics. United Kingdom* (various years); and *The digest of agricultural census statistics UK* (various years).

This wartime experiment in state control was short-lived although it created a blueprint for the state control of agriculture in the next war. But as with the post-Napoleonic war situation after 1815, again, the 'good war' was followed by a 'bad peace', with the abrupt termination of price protection by the Agriculture Act of 1921. This compelled the vast majority of farmers to curtail expenditure and produced a prolonged and general farming depression. And coupled with the mass sale of estates which accompanied the First World War period, landowners increasingly withdrew from their leadership in the provision of scientific and economic guidance for farming practice and other research activities. Moreover, according to many contemporary accounts, the farming community, which increasingly consisted of owner-occupiers rather than tenant farmers, was commonly regarded as being ill-equipped to respond to the challenges of another siege economy. A *Farmers Weekly* editorial in 1934 summed up feelings: '... is it possible that only a European war can remind our people how great is the service that the farming industry, given fair treatment, can render?'.<sup>3</sup>

Overall, we could characterize the first 40 years of the century as ones of general depression, worse in some regions than others, better on some farms than others, but overall not conducive to technological innovation. Instead, many farmers had developed something of a persecution mania, and most concentrated on economizing on purchased inputs in order to ensure economic survival.<sup>4</sup> As a result, the period saw socio-economic characteristics associated with under-employment, population exodus, particularly of agricultural workers, and burgeoning suburban expansion over former agricultural land. By 1939 there were over 2 million fewer acres of arable land than in 1914, permanent pastures were in poorer heart, and there were 25 per cent fewer farm workers.<sup>5</sup> One could point to innovations such as the Hosier milk-producing technique, or to state intervention in the marketing of milk and its safety, and marketing of other products, but there was little to suggest that any positive 'revolution' occurred at this difficult time.<sup>6</sup>

In the later 1930s the threat of war was perceived by many agriculturists. In 1936, in the depths of the depression, the President of the Royal Agricultural Society, Sir Merrick Burrell, later to be chairman of the West Sussex County War Agricultural Executive Committee (CWAEC), stated in an address to the Society (accompanied by cries of 'hear, hear') that 'What we must have is an agricultural peace time policy which will produce on the day war breaks out, not two years later, the maximum quantities of wheat, beef and mutton.'<sup>7</sup> Although such a statement implied the continuation of mixed farming, with more resources made available for all farmers, and what finally emerged in wartime conditions was the expansion of arable at the expense of livestock production, the feeling of the agricultural community was clear. In the uneasy years of 1938 and 1939 most were convinced that war was inevitable. The urgency of the situation was underlined by the bleak statistic that in 1938 70 per cent of the cash value of British food was imported.<sup>8</sup>

<sup>3</sup> Cited in P. Bullen, 'Different times – familiar problems', *Farmers Weekly sixtieth anniversary supplement*, 17 June 1994, pp. 2–3.

<sup>4</sup> A. Calder, *The people's war: Britain, 1939–45* (1969), p. 419.

<sup>5</sup> R. G. Stapledon, *The way of the land* (1943), pp. 245–6.

<sup>6</sup> The Hosier system, developed by Arthur Hosier

(1877–1963) in Wiltshire, used a portable milking bail which was moved daily in the fields. It enabled the cheap and efficient production of high quality milk. ODNB, 'Hosier, Arthur Julius'.

<sup>7</sup> JRASE 97 (1936), p. xxxiv.

<sup>8</sup> A. S. Milward, *War, economy and society, 1939–45* (1977), p. 246.

In May 1939 the Chamberlain government offered farmers a grant of £2 per acre to plough up old grassland for arable crops, together with subsidies for lime and basic slag, thereby signaling preparation for war and willingness to spend.

Thus the political climate now changed dramatically, pitching British farming into a period of intense change. Stapledon in 1942 doubted 'if British agriculture has ever had so much experience crammed into it in a period of three short years as during the first three years of this war'.<sup>9</sup> Kerridge's revolution might be timed at about 100 years, that championed by Chambers and Mingay and latterly Allen and Overton, might spread across about 70 years; that of Turner *et al.* over 50 years from 1800 to 1850, and that of Thompson over about 70 years. Could the period of five or six years between 1939 and 1945, perhaps including the anxious years of the late 1930s, be treated in the same way? Of course, we can avoid the question by asking whether the whole idea of a revolution is at all valid. We might agree with Joan Thirsk in denying the usefulness of such a concept, replacing it instead with a more complex temporal pattern of 'more or less rapid change' with growth, decline and stagnation being set alongside the recognition of spatial and sectoral difference, for example.<sup>10</sup>

And yet, unprecedented changes undeniably took place in that short six-year period which shook farming from its 1930s' depression and set it on a post-war course to prosperity, until at least the last 15 years of the twentieth century. This time there was no depression following boom, as in the 1820s and 1830s or in the 1920s and 1930s. Instead, from 1939 until about 1984, farming in Britain was arguably as prosperous as at any time in the past. Farmers' real net incomes trebled in the War as prices for farm produce doubled, and they found in the late 1940s and early 1950s a very hospitable climate as a result of world food shortages and the state guaranteed prices for agricultural produce. Farmers' average incomes rose again by a factor of 2.5 between 1953 and the international crisis of 1973–4.<sup>11</sup>

Was that new farming scene brought about by a revolution? In comparison with previous agricultural revolutions we are better placed to evaluate the magnitude of the wartime changes because the data are more plentiful. Yet we need to beware of embracing an overall conception of revolutionary change without due consideration for the proper identification of the components by which to measure and compare such change. Those components which are indisputably internal to farming include innovation in agricultural techniques (such as those associated with mechanization); changes in the physical layout and sizes of farms (the comparison here would be with the enclosure movement) and the intensification of farming, changing land use and the consequent enhancement of yields and labour productivity. Hovering behind much of this is the industrialization of agriculture during the twentieth century.

<sup>9</sup> Stapledon, *The way of the land*, p. 263.

<sup>10</sup> J. Thirsk, *England's agricultural regions and agrarian history, 1500–1750* (1987), pp. 59–60.

<sup>11</sup> For a fuller discussion see Paul Brassley's chapter in this volume together with his 'Output and technical change in twentieth-century British agriculture', *AgHR* 48 (2000), pp. 60–84 and J. K. Bowers, 'British agricultural policy since the Second World War' *AgHR* 33 (1985), p. 66. A prescient essay by Jim Holderness

noted the cluster of developments 'signalled by a change of direction in World War II that touched the practice of agriculture and the increase of productivity in the following peace', B. A. Holderness, 'Apropos the third agricultural revolution: how productive was British agriculture in the long boom, 1954–1973?' in P. Mathias and J. Davies (eds) *Agriculture and industrialisation from the eighteenth century to the present day* (1996), pp. 68, 73.



More contentious might be the spread of farming onto formerly unproductive or derelict land, whether moorland, woodland, heathland or urban parks and gardens. This was certainly a key feature of wartime agrarian change but can the movement of known techniques into different areas really be termed 'revolutionary'? And then there were changes which linked farming to the wider political economy and society, and which we might also examine for 'revolutionary' status. Two in particular stand out: the political decision to invest huge resources from the state into the production of food from Britain's own soil both during and immediately after the War, giving the agricultural sector the ability and confidence to transform itself in the post war years and, also hugely important, the transformation of the social relations of farming at a time when rural communities were brought into a war as never before.

### III

It is not difficult to demonstrate the increase in the quantities of food produced in the early war-time years (Figures 1.1 and 1.2). To cite the official history: 'By 1944 there had, compared with prewar production been a 90 per cent increase in wheat, 87 per cent in potatoes, 65 per cent in vegetables and 10 per cent in sugar beet'.<sup>12</sup> In spite of Britain's abnormal pre-war dependence on imported food and the wartime difficulties of importing food, the British people were neither starved into submission nor had to endure the malnutrition which plagued the war efforts of other combatants such as Germany and Russia. This very significant success alone may merit terming the period one of agricultural revolution.

The figures are indeed remarkable: between 1750 and 1850 the wheat acreage increased by 225 per cent; barley 68 per cent, oats 65 per cent. In the few years 1939–45 alone the arable area increased by 63 per cent in England and Wales, the wheat area by 82 per cent, barley 89 per cent and potatoes 116 per cent.<sup>13</sup> The peak year for arable was 1944, when the acreage almost equalled that of 1871, a measure both of the prosperity of the latter 'high farming' period, and of the rapid advance since the low point in acreage reached in the late 1930s.<sup>14</sup> The overall tonnage increases by 1944 are certainly impressive (Table 1.1). Of course, there had to be sacrifices: the production of hay in 1944 was over two million tons less than in 1939, with permanent pastures being ploughed up; and pigs and poultry, as competitors for grain, were greatly reduced in number and their feeding stuffs rationed, while milk production was prioritized, after falling slightly in 1941–2. Important for human health in wartime, incentives were later put in place for its increased production, which increased slightly year-on-year for the rest of the War.<sup>15</sup>

It has been demonstrated by Paul Brassley that output, in volume terms, did increase a little, but the average for 1943–5 was only about eight per cent higher than the immediate pre-war average, stimulated by higher wartime prices.<sup>16</sup> Increases in productivity are a fraught issue when it comes to comparisons with earlier periods. But in the exigency of wartime emergency, resources were found, not always without a struggle, to ensure that food supplies remained

<sup>12</sup> HMSO, *How Britain was fed in war time: food control, 1939–1945* (1946), p. 5.

<sup>13</sup> [www.defra.gov.uk/work\\_htm/publications/cs/farmstats\\_web/History/WWII/WWIIstats.htm](http://www.defra.gov.uk/work_htm/publications/cs/farmstats_web/History/WWII/WWIIstats.htm) [accessed November 2006].

<sup>14</sup> R. Best and J. T. Coppock, *The changing use of land in Britain* (1962), pp. 76–7.

<sup>15</sup> Murray, *Agriculture*, p. 237.

<sup>16</sup> See Brassley's chapter in this volume for the calculations upon which this statement is based.



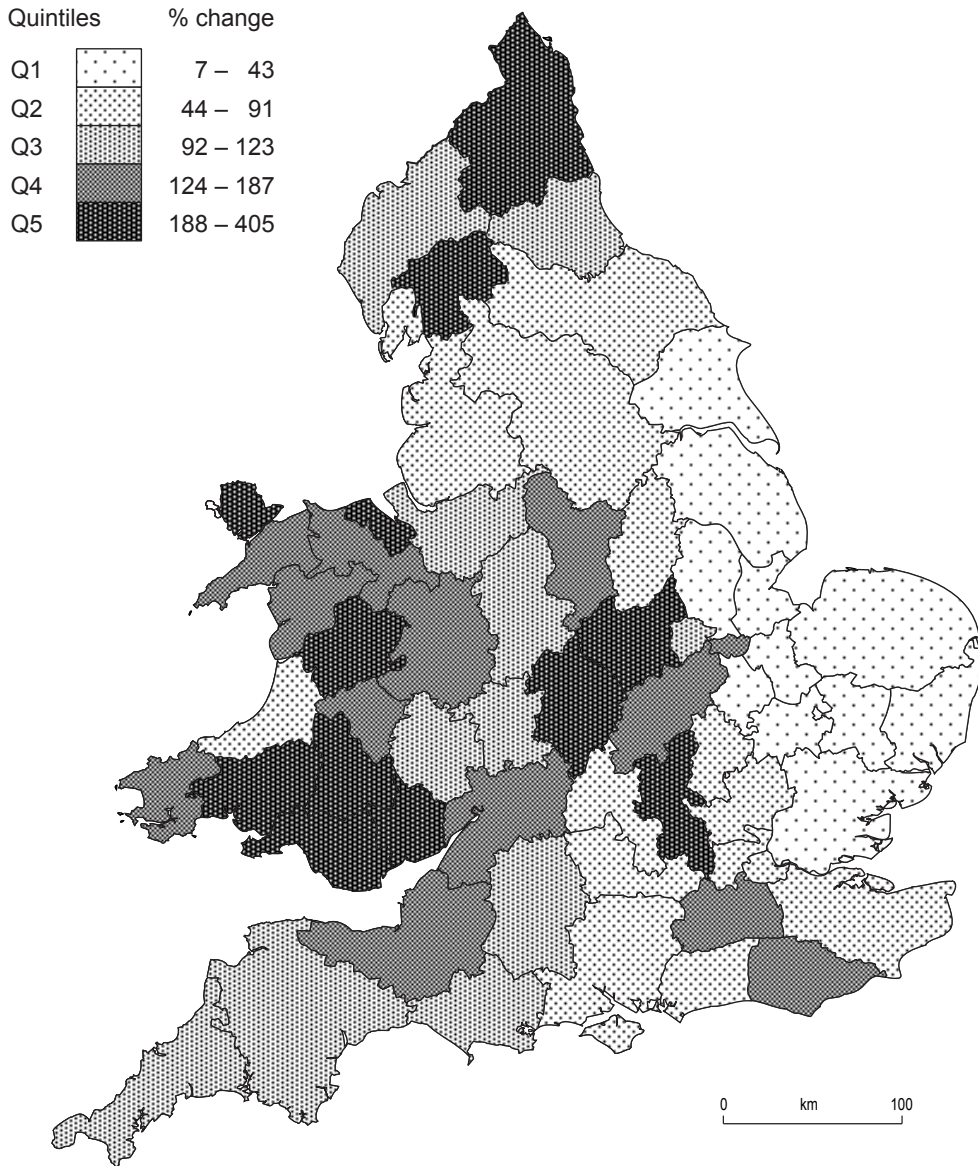


FIGURE 1.2. Regional variation in the plough-up campaign: percentage increase in the tillage area, 1939–44.

Source: *Agricultural statistics 1939–1944* (1947).

sufficient for feeding the nation. According to official indices, agricultural output measured in monetary terms more than doubled, while its calorific value increased by more than 180 per cent.

Land for farming was, of course, a key factor of production. Although there was considerable spatial expansion into marginal farming environments, there was no other agricultural revolution, for example, that took place at the same time as the loss of half a million acres of

TABLE 1.1. The increased production of the main arable crops, 1939–44

	<i>Production 1939</i> '000 tons	<i>Production 1944</i> '000 tons	<i>Increase 1939–44</i>	
			'000 tons	% increase
Wheat	1645	3138	1493	90.8
Barley	892	1752	860	96.4
Oats	2003	2953	950	47.4
Potatoes	5218	9096	3878	74.3
Turnips and Swedes	10,315	12,224	1909	18.5
Mangolds	4069	5560	1491	36.6

Source: Murray, *Agriculture*, Appendix Table VI, p.375.

farmland, much of good quality, that had occurred by 1945, primarily through requisition for the armed services. In some parts of Britain, and especially in lowland south-east England and East Anglia, the imposition of military requirements onto farmland was very dramatic. The War Office took precedence, as it must, at this time, but there was much localized resistance to the taking of land for army or air force purposes. If reclamation brought land into productivity, some one million acres were requisitioned and occupied by the services, and by 1944 over 20 per cent of the land surface of Great Britain could be entered and used for wartime military requirements. The battle to use the South Downs in Sussex, for example, was like a war within the War, and the factions had to be dealt with by the appointment of Josiah Stamp in a liaison capacity between the services and the Ministry of Agriculture.<sup>17</sup> There were angry exchanges between the War Office and Ministry of Agriculture over this issue.

Within the space of a mere five years, the area of arable land had risen by nearly 5 million acres. Traditional pastoral methods of farming were rapidly superseded by a system of cash cropping based primarily on the production of tillage crops, principally wheat and potatoes. A switch from pasture to arable farming on this scale was unparalleled in British agrarian history. The changes which took place during the Second World War dwarfed the achievements of the first food production campaign and, more importantly, established a trend that continued throughout most of the post-war decades of the twentieth century (Figure 1.1). Even the rationalization of the Common Agricultural Policy in the 1980s had only a marginal impact on the area of arable land.

Accompanying these switches in land use came some gains from spatial expansion. However this latter was, as many farmers knew to their cost, frequently achieved by ploughing more marginal and unsuitable soils. By so doing, yields could not be increased or sustained for long, and it should therefore be noted that the sustained increase in the yields of the main arable crops occurred after the War, rather than during it (Figure 1.3). Crop yields were relatively static from the 1870s and through the early twentieth century up to the late 1940s. It was not until well into the 1950s that a significant increase was discernible and maintained. As such, the wartime

<sup>17</sup> Josiah Stamp, first Baron Stamp (1880–1941), statistician, business administrator and brother of L. Dudley Stamp, was killed in an air raid with his wife and eldest son in April 1941. *ODNB*, 'Stamp, Josiah Charles'.

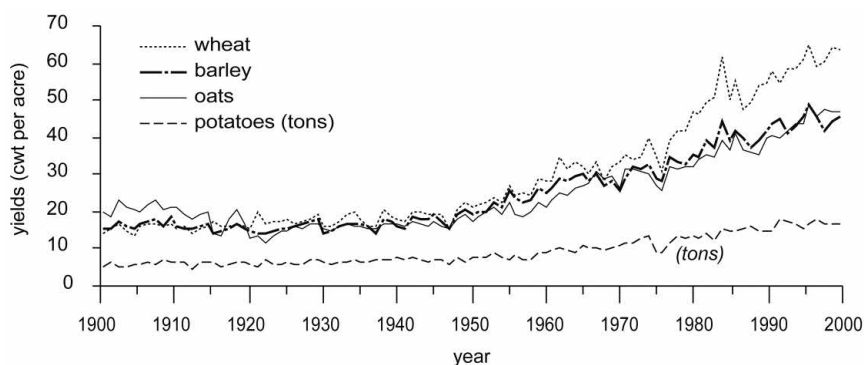


FIGURE 1.3. The changing yields of wheat, barley, oats and potatoes, 1900–2000.

Source: *Agricultural statistics* (various reports from 1900 to 2000).

transformation was primarily caused by the shift from pasture to arable, rather than by an ongoing increase in arable yields. While images of ploughing grassland, or even more spectacular, ploughing hillsides with tracked vehicles, sometimes driven by members of the Women's Land Army, certainly caught the public's imagination, the gains from the cultivation of such land may not have been that great.<sup>18</sup>

A huge reversal of inter-war labour losses also had to be countered, with farm labour falling from 825,000 in 1930–34 to 738,000 in 1935–39 in a continuation of a steady downward trend since the First World War. Now farmers also had to cope with manpower losses to the armed forces, industry or construction. The answer was to organize the deployment of land camps, harvest camps, the Women's Land Army and prisoners-of-war, although the latter were periodically 'poached' by the War Office to help with other work.<sup>19</sup> During 1940–45 as a result labour numbers grew to 815,000, growing again to 865,000 in 1946–50, before declining inexorably throughout the rest of the century.<sup>20</sup>

To a large extent the losses of labour during the War were mitigated by another key factor, that of fixed capital in the form of mechanized power, which served to increase the productivity of the remaining workers. The number of farm tractors which were either home-produced or imported virtually trebled between 1937–9 and 1942: as Sir George Stapledon remarked in 1942 'Tractors are now *the* thing', and they became an eye-catching element of wartime British plough-up propaganda, symbolic too of American help following Roosevelt's Lend-Lease Act of March 1941.<sup>21</sup> By 1942 the increases in farm machinery were certainly eye-catching, not only in the number of tractors, but also in other forms of cultivation and harvesting equipment (Table 1.2). The impact of Lend-Lease can be seen in the proportion of imported equipment by the latter date.

<sup>18</sup> See the chapter by John Martin in this volume.

<sup>19</sup> R. J. Moore-Colyer, 'Kids in the corn: school harvest camps and farm labour supply in England, 1940–1950', *AgHR* 52 (2004), pp. 183–206, and his chapter in this

volume.

<sup>20</sup> Brassley, 'Output and technical change', p. 65.

<sup>21</sup> Stapledon, *Way of the land*, p. 248.

TABLE 1.2. Increases in numbers of agricultural implements, 1937–9 to 1942

<i>Implement</i>	<i>1937–9</i>			<i>1942</i>			<i>% increase</i>
	<i>home produced</i>	<i>imported</i>	<i>Total</i>	<i>home produced</i>	<i>imported</i>	<i>Total</i>	
Tractors	14,940	4010	18,950	27,056	8003	35,059	85.0
Ploughs, horse-drawn	3867	464	4331	12,485	–	12,485	188.3
Ploughs, tractor-drawn	5539	3749	9288	8929	13,751	22,680	144.2
Disc harrows	921	794	1715	8026	2840	10,866	533.6
Cultivators	3954	628	4582	9851	1559	11,410	149.0
Corn and fertilizer drills	4121	3370	7491	11,543	5297	16,840	124.8
Binders	581	2192	2773	798	6695	7493	170.2
Threshers	355	11	366	1129	160	1289	252.2
Combine harvesters	–	28	28	–	470	470	1578.6
Potato planters	143	35	178	918	92	1010	467.4
Potato lifters	1327	126	1453	8719	671	9390	546.2

*Note:* Since a proportion of the domestic production of tractors 1937–9 was exported, it is estimated that only about 8,500 tractors were retained for use on British farms. This implies only 12,510 tractors in domestic use 1937–9 and an increase of 180 per cent by 1942.

*Source:* Murray, *Agriculture*, Appendix Table VIII, p. 378.

#### IV

What distinguishes this period of agrarian change from previous periods is not only the very rapid change in land use but the unprecedented role the state played in inducing this transformation. The role of the state emanating directly from Whitehall (or from the dispersed wartime locations of various Ministry offices) was seen in both short-term and longer-term strategic planning. Even at the height of war, there were many charged with thinking through the future of farming.<sup>22</sup> Shortly after the Ministry of Agriculture was putting out advice to farmers of what to do in the event of invasion in 1941, it was charging Lord Justice Scott and others with planning for the future of farming and rural land use.<sup>23</sup> The Scott Report was published in August 1942.

However much R.S. Hudson, Churchill's Minister of Agriculture, was seen as the farmers' supportive voice in government, there were also concerns at the level of the local state – and most particularly from the CWAECs. F.W. Bateson (1901–78), Oxford don and Fabian, and himself a volunteer on the Buckinghamshire WAEC, adopted a long-term perspective:

With the discredited philosophy of nineteenth-century capitalism the wheel has come full circle to the rural communism of the open-fields village. Those of us who are now associated with the County [War Agricultural] Committees, and who know something of agricultural

<sup>22</sup> See the 'Target for Tomorrow' series, for example, A.W. Menzies-Kitchen, *The future of British farming* (1945), esp. pp. 15–20.

<sup>23</sup> Leaflet, 'Farmers! What to do if the invader comes' (TNA, WO 199/153).

history, sometimes find ourselves rubbing our eyes. The Committees are now issuing the same orders as the jurors of the manorial courts issued year after year from the time of the Saxon settlements until the enclosures – to so-and-so to cut his thistles, to such-an-one to mend his fences or to clean his ditches, to hurry up with his mowing or to reduce the number of his sheep. In matter, if not in manner, the minutes of a Cultivation Sub-Committee are often identical with the rolls of a Court Baron.<sup>24</sup>

But the draconian injection of surveillance and control or ‘guidance’ by the state into an industry such as farming, which was made up of independent producers, was always going to be met with some resistance. Policy at Whitehall level had to be translated into face-to-face contact at the local level, and the role of the CWAECs and their technical and district committees was often difficult. The experiences of the committees and their charges undoubtedly varied from place to place. In some areas the work of the CWAECs was praised as helpful and supportive by farmers, in others it was roundly criticized as overbearing and even corrupt.<sup>25</sup>

The roles played by individuals, committees (both local and national), structural and spatial change in the organization of farming, innovation and many other facets of wartime agriculture remain under-researched. And an intriguing issue remains the relationship of human agency to the structures of the wartime state apparatus. After all, the ‘classic’ agricultural revolution was once pinned in large part onto the shoulders of a few pioneers, innovators, men of vision, who steered agricultural change in the eighteenth and nineteenth centuries. This agricultural revolution was promulgated by leading landowners, whose activities helped to instigate and popularize the new methods of more productive farming among, initially, their tenant farmers and, later, the wider farming community. Leading figures in this category included Thomas William Coke (1754–1842), who was undoubtedly a significant pioneer, but with a tendency to eulogize his own contribution to improving courses of husbandry and whose claims were uncritically endorsed by nineteenth-century historians. A similar scenario is also evident in the case of Jethro Tull (1674–1741).<sup>26</sup>

Is anything similar discernible for the Second World War? There were undoubtedly many individual farmers and estate owners who made significant contributions to the wartime effort, but there now emerges, in contrast to earlier phases of expansion, a ‘policy community’ to steer British farming through the difficult years. The work of Lord Scott with Dudley Stamp and the officials of the Ministry of Agriculture was of enormous importance. As Ministers for Agriculture, both Dorman-Smith, before Churchill’s accession to power, and then Hudson, were at the nexus of a vast bureaucratic machine which functioned to coordinate and control food output. The necessity for the planning of agriculture at the state, region and county levels became institutionally embedded. The status and role of agricultural economics as an incisive and powerful new discipline was consolidated and enhanced. And alongside them was a group of energetic enthusiasts, writers, amateur and professional, who contributed in a peculiarly British and somewhat uncoordinated way. The agronomist Sir George Stapledon (1882–1960)

<sup>24</sup> F.W. Bateson ‘The problem stated’, in Bateson (ed.), *Towards a socialist agriculture: studies by a group of Fabians* (1946), pp. 25–6.

<sup>25</sup> See the chapter in this volume by Short for more

detail on the conflicts between representatives of the local state and some members of the farming community.

<sup>26</sup> ODNB, ‘Coke, Thomas William’, ‘Tull, Jethro’.

toured the country giving advice on grassland, while Bateson, the Oxford English Don, working in the War with the Buckinghamshire WAEC, enthused from a Fabian perspective on statistics and reconstruction. Other writers such as A. Daniel Hall (1864–1942), C. S. Orwin (1876–1955) or A. G. Street (1892–1966) contributed from their different perspectives to an important current of agricultural discourse.

## V

Whatever the reality of the data regarding the progress of the wartime food production campaign, the duration of the War inevitably became associated with images and strength of feeling which are the very stuff of heroism and mythology. Whilst not denying the sacrifices made, it is now well-known that many of the narratives passed on from World War II have been given a mythical gloss by nationalism and post-hoc historical reasoning. The evacuation of Dunkirk, the Blitz and the Battle of Britain are just such events, used to summon a national pride and still used as tropes of British spirit 60 years later. Historical events are re-written by people with a purpose and an audience in mind. Both the British Cabinet and Churchill published their own accounts of the War, in the ‘official histories’ and these became the generally accepted versions.<sup>27</sup>

The response of the countryside to Britain at war, and the generalized feelings of many British people about her threatened countryside, can arguably be understood in this mythical way: the evacuation of children from the cities; the Home Guard; the Women’s Land Army. All this lent itself to a propagandist overlay on ‘Deep England’, the beloved idyllic countryside enhanced in literature, painting and music during the previous 100 years or so. Such imagery now came strongly to the fore, mustered like so much else for the protection of Britain. In literature, posters, song, film, and painting, the countryside was purposely projected as an innocent, old-fashioned or timeless landscape, a repository of real cultural values to be defended at all costs, as in Cavalcanti’s film *Went the Day Well* (1943) or Pressburger and Powell’s *A Canterbury Tale* (1944).<sup>28</sup> And the farming industry was helped by many BBC broadcasts although the Corporation was ever-mindful that it should not, even in wartime ‘become agents of Government policy’.<sup>29</sup>

The role of the state in bringing about the rural wartime transformation was also extensively eulogized. The official history, *Agriculture* compiled by K. A. H. Murray, later Lord Murray, emphasized the impressive output and productivity gains which could be attributed to these wartime controls, stressing the positive role the state had played in this process.<sup>30</sup> Moreover, the

<sup>27</sup> A. Calder, *The myth of the Blitz* (1991); W. S. Churchill, *The Second World War* (6 vols, 1948–54); D. Reynolds, *In command of history. Churchill fighting and writing the Second World War* (2004).

<sup>28</sup> For posters, see J. D. Cantwell, *Images of war: British posters, 1939–45* (1989); TNA, INF 13; for an equivalent film movement at this time in France see M. Butler, ‘*Paysan, paysage, patrie*: French films and rural life, 1940–1950’, *Rural Hist.* 14 (2003), pp. 219–37.

<sup>29</sup> Foreman, *Loaves and fishes*, p. 48.

<sup>30</sup> Murray, *Agriculture*. Keith Murray (1903–93) had joined the University of Oxford’s Agricultural Economics Research Institute and published *Land and life* (1932) and *The planning of agriculture* (1933) before the war. He also served on the Oxfordshire War Agricultural Executive Committee. He went on to have a distinguished career as a public servant including as Chairman of the University Grants Committee. ODNB, ‘Murray, Keith Anderson Hope’.



official wartime accounts also stressed the role of the state in bringing about this transformation: the Ministry of Information's *Land at war* (1945), written by Laurie Lee, was certainly an impressive account, sometimes reading poetically: 'from coast to coast now the ploughs were fanning out over new ground ...'. Lee nevertheless found the writing of the book a torment, hemmed in by governmental restrictions and 'written in a poverty-stricken vocabulary of about 100 words [and] it looked even worse typed'.<sup>31</sup>

Nevertheless, the conventional wisdom that Lee and others helped formulate is also underpinned by oral history, and the autobiographies and memoirs of those who were engaged in the industry. There are many accounts, for example, of women's role in food production, whether through the Women's Institute or the WLA.<sup>32</sup> The most significant of the farming books in terms of the number of copies printed were Frances Donaldson's *Four year's harvest* (1945), George Henderson's *Farming ladder* (1944), and Clifton Reynolds' *Glory Hill Farm* series (1941–45). All of these texts were written either during or in the immediate aftermath of the War, when Britain was experiencing food shortages, and there was an overwhelming need by the government to eulogize the achievements of the food production campaign. In evaluating the merits of such accounts, it is important to appreciate that these were not compiled by typical farmers steeped in agricultural lore, but by newcomers to the industry. In addition they were commissioned in order to put forward a particular message to demonstrate the success of wartime agriculture. The books in Clifton Reynolds' five-volume series were specifically sub-titled 'One hundred acres farmed by an amateur'.

Such studies helped to enshrine in popular mythology an uncritical endorsement of the achievements of the wartime transformation of farming. Even conscientious objectors, who numbered more than 59,000 before the end of the War, helped such an endorsement, since about half of them took up approved work in agriculture.<sup>33</sup> It should also be noted that there might not be a distinct polarization between 'reality' and 'myth', but that a greater complexity should be allowed. For every child who looked back with pleasure on evacuation to the countryside, there was another who thereafter hated the countryside with a particular vehemence.<sup>34</sup> And there were writers who might elide the two, such as H. J. Massingham, member of the Kinship in Husbandry, whose deep religious views, nationalism, dislike of centralized industrialism, and agricultural commentaries were intermixed in a large oeuvre at this time. He repeatedly warned against the abandonment of mixed agriculture in the rush to plough up land, since although Britain might 'succeed in scotching the supreme expression of modern mechanical man, the Teutonic Predatory State and its imitators at the expense of that tradi-

<sup>31</sup> Ministry of Information, *Land at war* (1945); Valerie Grove, *Laurie Lee: The well-loved stranger* (1999), pp. 174–96, 512.

<sup>32</sup> See, for example, V. Sackville-West, *The Women's Land Army* (1945); P. Dudgeon (ed.), *Village voices: Britain's foremost women's movement. A seventy-fifth anniversary celebration of rural Britain by the WI. A portrait of change in England's green and pleasant land, 1915–1990* (1989); M. Morgan, 'The acceptable face of feminism: the Women's Institute movement, 1915–1960' (unpub. D.Phil

thesis, University of Sussex, 1993). Many other formal or informal organizations also played a full part, such as the WVS and the many camps and clubs to promote the 'lend a hand on the land' and other food schemes.

<sup>33</sup> G. Neville, 'Eviction and reclamation in World War II: the case of a Worcestershire farm', *Local Historian* 29 (1999), pp. 76–90; Calder, *Myth*, p. 76; J. Makin, 'Pacifist farming communities in Lincolnshire in World War Two', *East Midland Historian* 14 (2004), pp. 49–63.

<sup>34</sup> R. Inglis, *The children's war, 1939–45* (1989).

tion, we win only to lose'.<sup>35</sup> And despite myths of economic or social consensus, inequalities persisted. Class divisions, for example, were still conspicuous in the countryside, as much as in the East End of London or the Glasgow shipyards. Overt criticisms of wartime agricultural policy at this time would have been unacceptable and regarded as unpatriotic. But one class blow was struck: many country mansions were requisitioned and became centres of local or national state power. In response to repeated pleas for care, and claims for compensation for damage done to Lawrence Castle, Lower Ashton, Devon, the army Claims Officer, supported by a land agent, wrote in May 1941:

We have had enough complaints from you. If we have any more we shall take the whole place over at our valuation, lock, stock and barrel, do what damage we like, and sell it for what it will fetch. What do you expect from a conscript army? We have the power and shall make it the worse for you.

At Stanmer House, Sussex, there was a report of 'wanton destruction' by November 1942, and in the small adjacent village, taken over for street-fighting training, there was evidence of 'recent military occupation by an ill-disciplined unit as the place has been left in a very dirty condition. All doors are open and mostly swinging in the wind'. It was recommended that a guard be placed to stop soldiers and civilians looting. The village was essentially rebuilt after the War.<sup>36</sup>

## VI

Nevertheless, it is very tempting to concur with the conventional wisdom that it was the Second World War that established the birth of modern agriculture and that this transformation was the result of government policies. The CWAECs which were established for each county in England and Wales implemented the government's national strategy for increasing food production, and worked through partnerships of all interested parties in what has been termed a 'clientalist' mode of operation.<sup>37</sup>

But in weighing the evidence for a transformation that was 'revolutionary', it is important to deconstruct the rural imagery, to establish the narratives of change and to understand the reality of progress or otherwise. In this respect the Second World War remains open to competing interpretations of the speed and success of farming change. There were positive changes: an increased awareness of the need for pest control, a greater acceptance of mechanization, and an awareness also of the need to plan land use more carefully than in the pre-war period. But land was lost to farming amidst disputes between government departments. Innovations, especially

<sup>35</sup> R.J. Moore-Colyer, 'A voice clamouring in the wilderness: H.J. Massingham (1888–1952) and rural England', *Rural Hist.* 13 (2002), pp. 199–224. The quotation is from pp. 212–3, taken from *The English countryman: a study of the English tradition* (1942), p. 140. See Conford's chapter in this volume for further details of the Kinship in Husbandry group, formed in late 1941 to promote organic agriculture and rural revival. And see Richard Moore-Colyer and Philip Conford, 'A "secret society"? The internal and external relations of the Kinship in

Husbandry, 1941–52', *Rural Hist.* 15 (2004), pp. 189–206.

<sup>36</sup> TNA, WO 199/803, Training areas: South Downs, 1941 Feb. – 1944 Mar.; LT 6/58 Mrs A.J. Dale v HM Secretary of State for War: claim for Lawrence Castle, Lower Ashton, Devon, 1942–7. See also J.M. Robinson, *The country house at war* (1989), pp. 157–73.

<sup>37</sup> T. Marsden, 'New rural territories: regulating the differentiated rural spaces', *J. Rural Studies* 14 (1998), pp. 107–17; T. Marsden, P. Lowe and S. Whatmore (eds) *Rural restructuring* (1990).



newer fertilizers or the making of silage, might be regarded with suspicion or official disapproval, many farmers actively mistrusted the CWAECs, and there were policy disagreements over the supply of tractors and labour. Overall productivity, measured in farm output, increased slightly overall between 1935–39 and 1943–45, but this was more than wiped out by significant diminishing returns to labour, capital and management.<sup>38</sup>

This is not, therefore, the unmitigated success story painted elsewhere, but it is closer to the reality faced by most people working on the land at this time. But with the uncovering of such difficulties, there should be little surprise that recent research has begun to qualify the overall picture of triumphant wartime agriculture.

Did all this amount to a revolution? Land was gained by ploughing-up – but also lost to the War Department. Labour was gained from a variety of sources – but lost to the services. The unmitigated gains were in the injection of capital as a result of price increases and government subsidy; increased efficiency of management; and the public consumption of imagery which proclaimed the farmers were also fighting ‘on the front line of freedom’. In terms of both internal and external changes, the rapidity of land use change, the degree and lasting duration of state support and control, the adoption of mechanization, and the resultant impact on farming communities, it was undoubtedly revolutionary. And since the outcome was to establish agriculture thereafter as a key element in receipt of preferential treatment within national strategic planning, it could also be seen as the most important rural turning-point of the twentieth century. In these terms, it was an agricultural revolution. It is possible to argue, of course, that elements of previous agricultural revolutions were absent – notably there was no large-scale land reform or reorganization to compare with the enclosure movement, despite the wishes of A. D. Hall and many radical commentators, most notably C. S. Orwin who argued for land to be nationalized after the War.<sup>39</sup> And there was no large-scale adoption of new crops and livestock breeds to compare with earlier centuries, although the scientific study of new varieties of cereals and grasses proved useful. But scientific and productivist methods were now thrust upon more and more farmers, and the national farm became more business-like in this drive to modernity in the countryside. As a result, output grew more rapidly between 1945 and 1965 than in any twentieth-century period before or since.<sup>40</sup> The morale and standing of farmers, the agricultural supply industries and the advisory profession were much higher than before the war and the farming community now began to build in a practical way on the strong wartime mythologies.<sup>41</sup> While fundamental reforms such as land nationalization were rejected, the *attitudes* of most farmers, as well as the context in which they operated, had now changed irreversibly, and the scene was set for post-war policy-led farming.

<sup>38</sup> See the chapter by Brassley in this volume.

<sup>39</sup> C. S. Orwin, *Speed the plough* (1942).

<sup>40</sup> Brassley, ‘Output and technical change’, p. 77.

<sup>41</sup> G. Martelli, *The Elvedon enterprise. A story of the second agricultural revolution* (1952), pp. 116–17:

“‘Revolution’ is the only word to describe the change, which not only transformed the face of Britain and contributed to its survival, but restored to the rural community the self-respect and faith in their calling which they had been in danger of losing.”

# The structural transformation of British agriculture: the resurgence of progressive, high-input arable farming<sup>\*</sup>

by John Martin

## *Abstract*

During the Second World War conventional pastoral farming, epitomized by extensive low-input methods, was challenged by the state-directed ploughing-up campaign aimed at maximizing the production of a limited range of arable crops, principally wheat and potatoes. Such a structural change was hailed by both pre-war and wartime officials as heralding the adoption of more productive and efficient methods of farming, and a return to the principles of the capital-intensive, high-input farming which had characterized the mid-Victorian era. This chapter examines the rationale for, and nature of, this transformation, and seeks to demonstrate that the increases in land productivity in the form of crop yields were considerably less impressive than the orthodox wisdom, derived in essence from Murray's official history, has indicated.

Prior to the Second World War, the attitudes and approaches of farmers to agricultural output and productivity covered a broad spectrum. At the polar extremes of the spectrum the dichotomy of methods employed could be classified as belonging to conventional and progressive farming. The former, which encompassed the vast majority of agriculturalists, was characterized by an emphasis on extensive, low-output, low-input methods of farming, usually dominated by livestock production. In contrast progressive farming was associated with the adoption of high-input, capital intensive methods of tillage farming. Wheat cultivation, which was hailed as the benchmark of progressive arable farming, was, by this time, confined mainly to those farmers who were able to exploit economies of scale, and located primarily on the lighter soils of the eastern and southern counties of England. Agricultural mechanization in the form of tractors was only slowly being adopted, and horses remained the main source of motive power. In 1939 fewer than one in six farmers owned a tractor and the vast majority of these were located in the south and east.

With an average size of less than 100 acres, most of the 350,000 or so agricultural holdings in existence in the 1930s were committed to conventional livestock farming. The prevailing

\* The research for this paper has been undertaken as part of my study into sustainable farming. I would like to acknowledge the generous assistance provided by the Leverhulme Trust in awarding me a Fellowship to support my research.

wisdom suggested that farmers had low levels of geographical and occupational mobility, were somewhat unresponsive to economic incentives, and their overriding desire was to remain on the land even if they could not do this on a full-time basis.<sup>1</sup> According to pre-war calculations made by Astor and Rowntree in 1938, 80,000 were either part- or spare-time farmers, whose incomes were derived primarily from other sources, amounting to nearly one in every five of the farming population.<sup>2</sup> Wartime calculations by the Ministry of Agriculture later suggested that there were as many as 130,000 farmers in this category. However these figures included agricultural workers who owned or rented a piece of land, as well as publicans, butchers and other local tradesmen who occupied land often used for activities either directly linked to their work or indirectly for stabling horses.<sup>3</sup>

During the inter-war depression, the global overproduction of most agricultural commodities depressed domestic prices and ensured that the agricultural sector was characterized by stagnating levels of output, whether measured in terms of physical or financial gross production, yields per acre or livestock productivity. Crop yields were little more than those that had been achieved fifty years earlier, while livestock production, measured in terms of the quantity of meat produced, had actually fallen. This was in spite of the dramatic increase in the imports of cereals used for animal feedingstuffs.<sup>4</sup>

Conventional farming therefore demonstrated a concentration on 'dog and stick' livestock farming, with expenditure on machinery, labour and investment in projects such as drainage schemes, farm buildings and the maintenance of hedges and ditches severely curtailed. It was a period that witnessed what A. G. Street noted as the waning of the 'farmer's glory', when, for many, doing one's duty by the soil was no longer possible.<sup>5</sup> Cost cutting was undertaken at the expense of the fertility of the land, with a rapid decline in the use of fertilizers such as lime and basic slag. As many as 10 million of the 26 million acres of crops, grass and rough grazings in England were seriously deficient in lime. In Wales, the situation was even more acute, with an estimated 2.5 million out of the 4.5 million acres requiring lime. By 1938 British farmers were only using 500,000 tons of lime per year, which was approximately 20 per cent of that required to maintain an adequate pH level for arable cropping.<sup>6</sup>

With abnormally low prices for cereals throughout most of the inter-war period, vast tracts of downland and the wolds were allowed to tumble down or to revert back to indigenous grasses or even scrubland. By 1932, more than 15.8 million acres of England and Wales were classified as permanent pasture as opposed to less than 9.4 million acres recorded as arable (tillage and temporary grass). This was the lowest figure for arable land recorded since the introduction of the agricultural returns for land use in 1866. Furthermore the quality of grassland was poor, since reseeded with the new improved strains of grasses developed at the Welsh Plant

<sup>1</sup> For a detailed review of the reluctance of farmers to leave agriculture, see J. R. Bellerby, *Industry: agriculture and relative income* (1956), R. Howarth, *Farming for farmers* (Hobart Paper 20, Institute of Economic Affairs, 1985) pp. 124–29.

<sup>2</sup> W. Astor and B. S. Rowntree, *British agriculture: the principles of future policy* (1938), p. 72.

<sup>3</sup> TNA, MAF 38/355, EF 735.

<sup>4</sup> For a detailed analysis of British agriculture in the 1930s, see J. F. Martin, 'The impact of government intervention on agricultural productivity in England and Wales, 1939–45' (Unpublished PhD thesis, University of Reading, 1992), pp. 15–26.

<sup>5</sup> A. G. Street, *Farmer's glory* (1932).

<sup>6</sup> G. W. Robinson, 'The use of lime', *JRASE* 104 (1944), p. 136.

Breeding Station under the direction of R.G.Stapledon was deemed by most farmers to be too expensive because the enhanced levels of productivity did not justify the additional costs. Even in the traditional bastion of mixed farming in the southern counties of lowland England, husbandry involving the alternate growing of restorative crops such as temporary leys and roots and exhaustive crops such as cereals, had been largely abandoned. Farmers were increasingly depending on 'cheap, imported concentrates which were used ... not as a supplement to but as a substitute for grass and crops grown from our own soil, ... livestock production was becoming more and more divorced from proper cultivation of the land'.<sup>7</sup>

Arable farming had largely been abandoned on the heavier, more intractable soils which were difficult and expensive to cultivate. And on those farms where it survived, the aim was to exploit economies of scale. On the larger arable farms where mechanized farming had been adopted, the overriding priority was to produce each unit of output as cheaply as possible by maximizing labour productivity rather than production per acre through the more generous use of artificial fertilizers.<sup>8</sup>

# I

During the 1930s an increasing diversity of approaches to farming had become apparent. This, in part, reflected the political void created by the diminished role of the landed aristocracy following the sales of land from the large estates during and after the First World War, coupled with the greater freedom of cropping granted to tenant farmers by the 1923 Agriculture Act. Freed from the guiding influence of landowners and covenants which had historically determined the sequence of cropping patterns and had required tenant farmers to maintain standards of good husbandry, the stage had been set for a general deterioration in the level of farming.<sup>9</sup>

However, there were many examples of agriculturalists, both individuals and organizations, who engaged actively, and often expensively, in farming ventures. These were the progressive farmers. It is, for example, possible to identify a group of corporate farms which depended on outside funds to finance their somewhat grandiose schemes. A leading example of this was the Dartington estate in Devon, purchased by Dorothy and Leonard Elmhirst at the time of their marriage in 1925.<sup>10</sup> Here they embarked on an ambitious, even utopian experiment in rural regeneration embracing both agriculture and related industries, but their initial efforts were thwarted and, in 1937, major restructuring became necessary with a further injection of £60,000.<sup>11</sup>

<sup>7</sup> Sir R.G.Stapledon and W.Davies, *Ley farming* (1942). See the foreword by R.S.Hudson, Minister of Agriculture, p.8.

<sup>8</sup> A.Bridges and E.P.Weeks, *Mechanized corn growing: a record of three years' experience, 1934-1936* (University of Oxford, Agricultural Economics Research Institute, 1937), pp.19-21.

<sup>9</sup> Martin 'Impact of government intervention', pp.20-25.

<sup>10</sup> For a detailed account of the Dartington experiment, V.Bonham-Carter, *Dartington Hall: The formative years, 1925-57* (1970), N.Cottis and J.Lane (eds), *A Dartington anthology, 1925-1957* (1975), M.Young, *The Elmhirsts of Dartington* (1982).

<sup>11</sup> R.D.Brigden, *Farming businesses and businessmen in the interwar period* (University of Reading, Rural History Centre, Discussion Paper 7, 1997), p.21.

A renowned entrepreneur with a passion for agriculture was Sir Ernest Debenham (1865–1952), departmental store tycoon, who had purchased the 10,000-acre Bladen estate near Bere Regis in Dorset. By 1929, 2300 acres were in a six-year arable rotation of corn roots and three-year leys, while the rest of the estate, amounting to 4200 acres, was directly farmed and down to pasture. What distinguished Debenham's farming from that of his contemporaries was the emphasis on utilizing the most modern plant and machinery, and the careful recording of results.<sup>12</sup> Like the Elmhursts, however, his pioneering experiment had great difficulty in securing an adequate return on the capital invested.

In 1930, as a showcase designed to popularize mechanized farming, the Ford motor company had purchased the 2400 acre Boreham estate in Essex. Conventional livestock farming was replaced by large-scale market gardening because of the perceived greater profit potential. But again, a detailed critique of the farm accounts shows that the Ford estate's experiment stalled in the late 1930s.<sup>13</sup> Despite these problems, the *Farmers Weekly* continued to eulogize its achievements:

Last year these farms had to face the difficulties common to British agriculture, owing to decline in market prices and to the abnormal weather conditions. This year has been one of progress and the results promise to be satisfactory.<sup>14</sup>

Another strand was the small but articulate group whose endeavours eventually crystallized into the organic movement. Allied to this school of thought were those who advocated the need to maintain agriculture primarily as a means of sustaining vibrant rural societies, a leading figure in this group being Rolf Gardiner.<sup>15</sup> As Philip Conford's chapter illustrates however, these ideas were largely ignored during the War.

In contrast, there were a number of practical farmers who managed to prosper in the 1930s by developing more efficient, low-cost methods of production. One example was to be seen on the Wexcombe estate, Wiltshire, purchased by Arthur Hosier and his brother Joshua in 1920. Here, Arthur's interest in engineering spawned the portable outdoor bail milking system, drawn by a tractor and moved daily throughout the year. This unorthodox method enabled herds of sixty cows to be managed by one man with the aid of an assistant, and at its peak the estate maintained a herd of 300 cows. In terms of labour productivity, the main criterion by which success had to be judged in the 1930s, this was a significant improvement on the conventional system of production, in which herds of fewer than twenty cows were hand-milked in a cowshed. The Hosiers sold milk to London, making profits despite the inter-war collapse in milk prices.

Initiatives such as this were only possible on the lighter soils of the southern counties where the climate was more amenable to this type of farming, enabling the cows to remain outside throughout the winter months. By 1938 there were nearly 200 farms in the region using the Hosier system. These included the farmer and broadcaster A.G. Street in Wiltshire, and Rex Paterson of Hatch Warren, Basingstoke who had acquired vast tracts of the Hampshire downs often at a nominal rent. By the outbreak of the Second World War his farming empire extended

<sup>12</sup> Ibid. p. 16.

<sup>13</sup> Ibid. p. 27.

<sup>14</sup> *FW*, 1 Oct. 1937, p. 28.

<sup>15</sup> See R. Moore-Colyer, 'Back to basics: Rolf Gardiner, H. J. Massingham and "A Kinship in Husbandry"', *Rural Hist.* 12 (2001), pp. 85–108.

to nearly 10,000 acres, which made him the second largest farmer in the county.<sup>16</sup> Farmers in this category might be regarded as the 'non commissioned officers' of the farming world, in that they managed to progress in economic terms by dint of their own efforts and were willing to experiment with new ideas, even if not all of them proved successful.

Progressive, high-input methods of mechanized, arable farming were advocated by a number of leading academics who believed that the sector's salvation could only be achieved by enhanced economic efficiency, which would enable British farmers to compete with low-cost, overseas producers. One of the most persuasive and influential critics of the prevailing system of pastoral farming in the 1930s was Sir George Stapledon, Director of the Welsh Plant Breeding Station from 1922 to 1940. By the 1930s he had achieved an international reputation as an improver of grasslands. He condemned the prevailing system of permanent pastures, which he associated with low levels of rural employment and other problems undermining the vitality of the countryside.<sup>17</sup> During the First World War, Stapledon, who was then a member of the Food Production Committee, had even suggested ploughing up all of the Midlands to create a great wheat belt and transferring its livestock to the wetter western part of Britain.<sup>18</sup>

Stapledon's classification of permanent pastures concluded that only 251,000 acres, just 1.6 per cent of England's pastures, were first grade, containing 30 per cent or more perennial ryegrass, and this high quality grassland was concentrated in very localized areas (Figure 2.1). In contrast, he classified more than 4.3 million acres, amounting to 27.4 per cent of grassland, as third-rate pastures, defined as common bent or *Agrostis* dominant but containing perennial ryegrass to the extent of about 10 per cent. These were associated with low levels of productivity. A further 9.5 million acres of land, or more than 60 per cent of the existing pasture land, were classified as fourth-rate, dominated by *Agrostis* with either a negligible or non-existent contribution from ryegrass. These latter pastures were the most abundant, particularly in dairying districts. They were regarded as being of limited agricultural value, typically forming rearing pastures for store animals. Only exceptionally were they capable of fattening prime lamb or cattle without excessive dependence on imported feedingstuffs.

Stapledon's findings were seen by pre-war planners as conclusive proof of the low levels of efficiency prevailing amongst livestock farmers, and it was held that they established a case for a ploughing-up policy, accompanied by the adoption of more productive and progressive arable farming. But in retrospect his critique of grassland quality based exclusively on the ryegrass composition of the sward is not as convincing as it was hailed by wartime policymakers. While swards containing a high proportion of ryegrass subjected to high levels of management and fertilizer inputs certainly did produce considerably higher yields than swards consisting of inferior grasses, ryegrass was best suited to deep fertile soils such as those which prevailed in the Romney Marsh area of Kent, parts of Norfolk and the Market Harborough area of Leicestershire. Unfortunately ryegrass was very difficult to establish on lighter soils which had low levels of precipitation, and was badly affected by summer droughts.

Stapledon's classification based on a single criterion of assessment was, therefore, not simply

<sup>16</sup> ODNB, 'Paterson, Rex'.

<sup>17</sup> R. Waller, *Prophet of the new age* (1962)

<sup>18</sup> *FW*, 5 July 1940, p. 21.





FIGURE 2.1. Stapledon and Davies' Grassland Map of England and Wales.

Source: R.G. Stapledon and W. Davies, *Ley farming* (Revised edition, 1948), end map.

an indication of the quality of the level of farming efficiency but more a reflection of soil type and the style of grassland management.<sup>19</sup>

<sup>19</sup> Stapledon's contribution to this discourse was formally recognized when he was elected Fellow of the Royal Society and knighted in 1939.

The most influential and best-known academic advocating progressive methods was C.S. Orwin who, from 1913 until his retirement in 1945, was the Director of the Agricultural Economics Research Institute (AERI) at Oxford University.<sup>20</sup> From 1928 onwards the Institute's findings, compiled by members and edited by Orwin, were disseminated in *The Agricultural Economics Occasional Notes* which provided a detailed analysis of price trends and costings for individual enterprises.<sup>21</sup> Later they were subsumed under the title of the *Farm Economist*, which provided an important vehicle for the wider academic community but was of limited appeal to the farming community.

During the 1930s, Orwin argued passionately that retrenchment, i.e. economizing on all forms of expenditure (which was the traditional response of the farming community to agricultural depression), was no longer appropriate. Using a sailing analogy, he argued that 'in the face of continued adverse conditions, trimming the sails cannot be carried on indefinitely, and sooner or later a new tack must be made if progress is to be achieved, and profits earned once more'.<sup>22</sup> He had considered two contrasting approaches to the reconstruction of agriculture, the first involving the encouragement of smallholdings and family farms, a strategy which he rejected because it ensured the survival of pre-capitalist values. The second option, which he fervently advocated, involved the 'continuous expansion of the size of the unit of organization and the steady absorption of the small scale operator'. To exploit economies of scale, he suggested that holdings should be in the region of 5000 acres.<sup>23</sup> Orwin epitomized a group of orthodox agricultural scientists and economists who believed that farming had to be rationalized and subject to scientific management along similar lines to that which had transformed Britain's manufacturing sector.

Under Orwin's directorship in the 1930s, the staff of AERI investigated pioneers who were utilizing machinery, particularly tractors, cost accounting, and artificial fertilizers to increase economic efficiency. *Progress in English farming systems* (1933), to which Orwin contributed the opening section, provided a detailed case study of how Mr W.S. Abbott had transformed his two farms in the Soke of Peterborough.<sup>24</sup> *Mechanised corn growing* (1937) documented the activities of a small number of farms pioneering the use of the combine harvester for harvesting cereal crops.<sup>25</sup> But these holdings, with an average size of 736 acres, were located on lighter soils, particularly on the chalk belt, which had traditionally been characterized by larger units devoted primarily to barley and sheep.<sup>26</sup> On these farms, however, maximizing output per acre through the intensive use of fertilizers was not pursued as it was deemed easier and more profitable to grow lighter crops of cereals which could easily be harvested, rather than risk the possible problems that would result from heavier yielding crops which would be prone to lodging during wetter seasons. Farmers who rented these holdings were untypical both in terms of their commitment to large-scale mechanization and because they

<sup>20</sup> ODNB, 'Orwin, Charles Stuart'.

<sup>21</sup> In 1932 the Occasional Notes were published as a separate volume, one of which was signed by the main contributors and presented to the editor. This presentation volume is in the author's possession.

<sup>22</sup> A. Bridges assisted by E.L. Jones, *Progress in English farming systems*, 7, *The flexibility of farming* (1933), p. 7.

<sup>23</sup> C.S. Orwin, *The future of farming* (1942), p. 81.

<sup>24</sup> Bridges assisted by Jones, *Progress in English farming systems*. Abbott's case is reviewed in a note contributed by Orwin, pp. 2-3.

<sup>25</sup> Bridges and Weeks, *Mechanized corn growing*.

<sup>26</sup> *Ibid.*, p. 11.



had only recently secured their tenancy, often at a peppercorn rent, giving them considerable advantages over their peers.

Recognizing the magnitude of the problems which faced the agricultural sector in general, Orwin contemplated land nationalization as a possible solution. He thought that government control of this type was the only way of transforming a sector that had been shaped by the needs of the horse economy of the nineteenth century.<sup>27</sup> He endorsed the prevailing wisdom that farmers were lacking in entrepreneurial flair, being sluggish in responding to new economic challenges in terms of the way they farmed and their adoption of more productive methods.<sup>28</sup> Implicit in this analysis was that idea that younger, full-time farmers were considerably more dynamic and productive than their elderly counterparts, many of whom only farmed out of necessity and on a part-time basis.<sup>29</sup> The fact that they needed to supplement their income from non-agricultural sources was widely accepted as indicative of their low level of economic efficiency, coupled with their willingness to remain in the industry at almost any cost.

Another leading figure in the modernizing process was Sir A. Daniel Hall, Director of the John Innes Horticultural Institute at Merton, Surrey, from 1927 to 1939. Writing immediately after the end of the First World War, he was also of the opinion that the future lay with large-scale, specialist factory farms, pursuing a more scientific approach to agricultural production.<sup>30</sup> In a similar way to Orwin, he acknowledged the social advantages of a group of small, independent farmers within the sector, but argued that this philosophy had to be sacrificed for the sake of economic efficiency in terms of capital and labour in order to maximize farm output.

Prior to the Second World War government measures to assist agriculture focused on product rationalization, protection and subsidies designed to facilitate the forces of economic modernization. These policies had enjoyed limited impact. Indeed, in 1939, Britain remained more dependent on imported food than it had been immediately prior to the outbreak of the Great War.<sup>31</sup> In the late 1930s, 88 per cent of Britain's wheat originated from overseas.<sup>32</sup> It was only in perishable foods such as milk, or low-value, bulky commodities such as potatoes which were expensive to transport, that British farmers could maintain a domestic monopoly. The prevailing wisdom was that the vast majority of conventional farmers were ill-equipped to deal with the impending challenge of a siege economy and, in particular, the ploughing up of grassland, which was to be the focus of the wartime food production campaign. The conventional/progressive spectrum therefore had now to be directly addressed as a key element in wartime food strategy.

## II

The outbreak of the Second War led to a radical change in the state's attitude to the agricultural sector. As a result of Britain's inter-war dependence on imported food and its limited stockpiles

<sup>27</sup> C. S. Orwin, *Speed the plough* (1942), pp. 101–15.

<sup>28</sup> For a detailed analysis of this interpretation, C. Ó Gráda, 'Agricultural decline, 1860–1914', in R. Floud and D. McCloskey (eds), *The economic history of modern Britain* (2 vols, 1981), II, pp. 178–80.

<sup>29</sup> Dr Carslaw, Cambridge School of Agriculture,

report cited in *The Times*, 28 Feb. 1938, p. 20.

<sup>30</sup> After the Second World War, Sir Daniel Hall published *Fertilisers and the land* (1947) which stressed the value of artificial fertilizers.

<sup>31</sup> J. Martin, *The development of modern agriculture. British farming since 1931* (2000), p. 10.

of grains, the government considered that in the event of military hostilities, it had little option but to increase arable production and to adopt more productive (i. e. progressive) methods of farming. When they reflected back on the food production campaign of 1914–18, the rationale for a ploughing-up strategy appeared self-evident to government officials, for it offered the most effective and efficient way of feeding the population.<sup>32</sup> According to Murray, who at this time was an influential member of AERI, the debate was not so much about justifying the rationale for a plough-up, but about whether it should be introduced prior to, or after, the outbreak of military hostilities.

Alternative strategies which would have been more sympathetic to conventional forms of pastoral farming and beneficial on nutritional grounds, in particular the possibility of expanding livestock production, were put forward but not seriously considered by government ministers.<sup>34</sup> According to calculations made by Sir John Boyd Orr, raising the food consumption of the whole population of England to the level of the top 10 per cent would entail increasing the production of milk by 8 per cent, butter by 41 per cent, eggs by 55 per cent, meat by 29 per cent, fruit by 124 per cent and vegetables by 87 per cent.

The desirability of raising milk production was advocated in this context. But calculations undertaken by Astor and Rowntree suggested that increasing milk consumption to levels necessary for health required a 65 per cent increase in production, equivalent to an additional 2.5 million cows.<sup>35</sup> Such a policy would not have been compatible with conventional mixed farming and would have involved the development of large-scale, specialist dairy farms, necessitating radical structural change, as well as continued dependence on America for a large part of Britain's wheat supplies. It would have almost certainly necessitated stringent rationing of basic carbohydrate foods such as bread and potatoes.

A detailed perusal of Ministry of Agriculture files in the National Archives reveals that little consideration was given to the alternative strategies suggested by Orr. Instead, the rationalization of livestock numbers was perceived as an essential prerequisite if the British population was to be saved from starvation during a siege. As R.S. Hudson was to explain to the House of Commons in April 1941:

Above all we have to avoid the mistake we made in the last war to some extent and to which Germany made to a greater extent, of maintaining a large head of cattle on a low maintenance ration which will produce neither meat nor milk ... walking about doing nothing but growing old.<sup>36</sup>

So in the spring of 1939, in order to mobilize agriculture for what now seemed an inevitable war, the government embarked upon an ambitious programme to promote arable farming, and to encourage more farmers to move further along the spectrum towards becoming 'progressive'.

<sup>32</sup> R. Rutherford, 'Wartime changes in the sources of British food supplies', *Farm Economist* 5 (1946), p. 128.

<sup>33</sup> K.A.H. Murray, 'Food supplies in peace and war', *Lloyds Bank Monthly Rev.* (Oct. 1938), reprinted in Agricultural Economics Research Institute, *Miscellaneous papers in agricultural economics*, 9, (1938–41) (1941), pp. 1–15.

<sup>34</sup> For a more detailed analysis of the pre-war mobilization of agriculture, A. F. Wilt, *Food for war. Agriculture and rearmament in Britain before the Second World War* (2001).

<sup>35</sup> W. Astor and B.S. Rowntree, *Mixed farming and muddled thinking* (1946), p. 119.

<sup>36</sup> *PD Commons*, 370, 3 Apr. 1941, col. 2217.

The Agricultural Development Act of May 1939 introduced a subsidy on lime and basic slag in order to encourage farmers to improve the fertility of their existing grassland. As Stapledon noted, this was regarded as an 'emergency policy', but with long term aims. It was intended that this would help to rejuvenate permanent pasture and enable the land to feed more livestock which would, in turn, increase its fertility in preparation for arable cropping.<sup>37</sup> Subsequently he claimed it had been the permanent pasture complex that had 'done so much during many a decade to put a stop to the wheels of our progressive agriculture'.<sup>38</sup>

The main plank of the strategy to increase the tillage area, which was considered in official circles to be synonymous with progressive, productive farming, was the provision in the Agricultural Development Act of a grant of £2 per acre for ploughing up land which had been left as pasture for more than seven years. Initially the decision as to which fields, if any, were to be ploughed up was left entirely at the farmer's discretion. This subsidy payment on its own was a very attractive incentive amounting to at least twice the actual cost of the ploughing operations.<sup>39</sup> Following the outbreak of military hostilities in September 1939, the government established a national target of ploughing up an additional two million acres of pasture.

A decentralized system of wartime control, drawn from the experiences of the food production campaign of the First World War and with County War Agricultural Executive Committees (CWAECs) directing agriculture at local level, was re-introduced. This was intended to provide a vehicle for modernizing the agricultural sector, ensuring that progressive methods of high-input farming were quickly and widely adopted in response to the challenges of a siege economy.

Each CWAEC was allocated a ploughing-up target equating to approximately 10 per cent of the existing pasture land under its jurisdiction, with the power to decide how this task was to be divided between individual farmers. With the exception of Buckinghamshire, Essex, Hertfordshire, Middlesex and the East Riding of Yorkshire which were areas of heavy, intractable land, all counties were reported to have achieved their quota by May 1940, some by a significant margin. In Leicestershire, for example, more than 30,876 acres were ploughed up against a target of 25,000 acres, 24 per cent above its quota, while in Bedfordshire 17,452 acres were returned to cultivation against a 10,000 acre target, more than 74 per cent above its quota.<sup>40</sup>

In March 1940 the Ministry's sub-committee on food policy discussed two sets of proposals for the 1941 harvest. The first one envisaged the ploughing up of an additional half million acres, a target which, it was believed, could be achieved with existing levels of inputs. The other scheme more boldly involved the ploughing-up of an additional 2 million acres, and would require the allocation of substantial additional supplies of labour and machinery. The meeting of the Food Policy Committee on 15 April 1940 favoured the first option, but the subsequent German invasion of the Scandinavian countries was not only instrumental in bringing the 'phoney war' to an abrupt end, but also left the British government with no alternative but to respond pragmatically to the impending threat of a siege.<sup>41</sup>

<sup>37</sup> R.G. Stapledon, 'Emergency policy with long term aims', *FW*, 19 May 1939, p. 14.

<sup>38</sup> 'I'll stake my reputation: Sir George Stapledon on the aims in Warwickshire grassland experiment', *FW*, 5 July 1940, p. 21.

<sup>39</sup> S.J. Wright, 'Agricultural contract work', *AJMA* 46 (1939), p. 27.

<sup>40</sup> *FW*, 31 May 1940, p. 17.

<sup>41</sup> Murray, *Agriculture*, p. 106.

During the early stages of the War, neither the Ministry of Agriculture nor the CWAECs had detailed information about the condition of individual farms. In order to facilitate the planning of future cropping objectives the government instructed the CWAECs to undertake a farm survey of their respective regions.<sup>42</sup> The results of the survey were expected within six months but administrative difficulties meant that it was not completed until 1943. Nevertheless, in the ploughing up campaign of 1941–2, a further 1.5 million acres of pasture land were brought back into cultivation. The 1943 campaign was regarded in official circles as the crisis year, when farmers were instructed to put forward their maximum effort without regard to the impact on the crops that would be obtainable in subsequent years. This was partly a reflection of the official view that by the following year, shipping would be more readily available to import wheat from overseas.

According to Murray's official history 'the response was magnificent'.<sup>43</sup> The switch from pastoral to more productive arable farming implemented through the dynamism of the CWAECs was portrayed as 'the greatest triumph ... [being] the success of the local organization' exhibiting 'a crusading enthusiasm to bring about a renaissance in British farming', and noting that the key figures in this process were the 'progressive tenant farmers and farming landowners on the committees'.<sup>44</sup> Similarly, Edith Whetham praised the 'missionary zeal' exhibited by these Committees in transforming the agricultural sector.<sup>45</sup>

### III

In an effort to bring about the structural realignment of agriculture and to maximize the increase in arable farming, the government, in conjunction with local officials, utilized not only compulsion in terms of telling farmers which fields to plough up, but also attempted to popularize the benefits of arable cultivation in a variety of ways. Demonstrations were organized on selected farms to illustrate how activities could be undertaken in an efficient way. Radio campaigns and the farming press, including *Farmers Weekly* and *Farmer and Stockbreeder*, provided a continuous stream of articles exhorting farmers to increase their arable acreage and to adopt more productive farming methods. During the initial stages of the War, farmers were subject to a carrot and stick approach, being offered favourable price incentives to bring land into cultivation and, from 1941 onwards, high guaranteed prices for the main agricultural commodities. Progressive farming, in official circles, had become firmly synonymous with tillage production, and particularly the growing of wheat and potatoes which, from 1942, were subject to acreage payments as a further financial incentive to increase production.

In order to differentiate between progressive farmers who were willing to respond to these incentives and those conventional farmers who remained wedded to traditional, low output methods, CWAECs were instructed to evaluate managerial performance. Individual farmers were classified into the three categories of A, B or C, relating to the perceived level of output

<sup>42</sup> Short, *et al.*, *National Farm Survey*.

<sup>43</sup> Murray, *Agriculture*, p. 183.

<sup>44</sup> *Ibid.*, p. 339.

<sup>45</sup> E. Whetham, *British farming, 1939–49* (1952), p. 130.

achieved on the holding. Thus 'A' category farmers were deemed to be achieving a level of output in excess of 80 per cent of the holding's potential, 'B' farmers were considered to be producing a level of output between 60 to 80 per cent, whilst those in the 'C' category were regarded as less efficient and in need of extensive direction.<sup>46</sup> Nationally, less than five per cent of farmers were placed in the 'C' category. Such a classification system therefore clearly attempted to differentiate between progressive and entrepreneurial farmers on the one hand, who farmed in an efficient way or at least according to the directives and dictates issued by the CWAECs, and were therefore considered to be responding positively to new challenges, and on the other the less productive, conventional farmers who remained entrenched in low-input, low-output methods. This latter group were now designated as the less efficient, non-progressive farmers who needed to be cajoled by the wartime officials.

In practice the attempt made to distinguish progressive (and potentially progressive) farmers from their conventional neighbours was met with suspicion. Classification was often subjective, inevitably reflecting the bias of committee members, and was open to abuse.<sup>47</sup> According to the Farmers' Rights Association, instances were recorded where CWAEC members themselves should have been categorized as 'C' farmers because of the poor condition of their own farm.<sup>48</sup> Smaller farmers, not surprisingly, were underrepresented on the Committees. Nevertheless the grading system reinforced the prevailing view that large farmers were considerably more efficient and progressive than their smaller counterparts and there was a significant correlation between the size of farm and the proportion of farmers who were classified in the 'A' category (Table 2.1). Fewer than three out of four farmers with five to 25 acres were categorized in this way, whereas for those with more than 700 acres, the figure was nine in every ten. These differences in classification might be empirically true, but might also have reflected the composition of the committees undertaking the classification.

The wartime expansion of tillage enforced by the CWAECs affected individual farmers in different ways. In particular, the strategy of allocating ploughing-up targets based on prevailing levels of permanent pasture meant that its effects were unequally distributed between one county and another. It was the traditional pastoral areas of the Midlands, where conventional livestock farming had predominated, that bore the brunt of this transition (Figures 2.2 and 2.3). In Leicestershire, the proportion of arable increased from less than 15 per cent of the total agricultural area in 1939 to in excess of 45 per cent by the end of 1944, with a similar but slightly less pronounced trend also apparent in nearby Nottinghamshire, Derbyshire and Staffordshire.

In contrast the regional increase in the proportion of land cultivated was considerably less in the eastern and southern counties where large-scale, highly-mechanized, progressive farming methods were already much more firmly established. In Norfolk, for example, where there was relatively little pasture, there was less room for expansion. But irrespective of region, larger farm businesses almost invariably had a greater proportion of their land devoted to arable crops and were better suited by virtue of economies of scale and previous experience to cope with wartime directives to increase their arable further.

<sup>46</sup> Short *et al.*, *National Farm Survey*, p. 56.

<sup>47</sup> *Ibid.*, p. 37.

<sup>48</sup> Farmers' Rights Association, *Living casualties* (1944), p. 23.

TABLE 2.1. Relationship between size of farm and proportion of farmers graded 'A'

<i>Acres of crops and grass</i>	<i>Proportion graded 'A'</i>
5–25	74
25–100	76
100–300	78
300–700	84
700 and over	90

Source: A. Hurd, *Farmer in Whitehall*, p. 43.

Thus it was the pre-war progressive arable farmers, farming large holdings in a mechanized way, who experienced the least disruption from the wartime controls. For example the Elmhirst utopian experiment in rural regeneration at Dartington was revitalized by the increased war-time demand and higher prices for arable crops.<sup>49</sup> Similarly, the profitability of the Ford motor company farming venture at Boreham Wood in Essex increased rapidly without any major disruption to its farming systems. Established arable farmers, such as those praised by Orwin in the 1930s, were the main beneficiaries of the higher prices and state support during the War. Indeed the income of farmers in general rose substantially. Based on official figures, the reward for the manual and managerial effort of farmers and their wives increased from £53 million in 1938–9 to £204.5 million by 1941–2.<sup>50</sup> The magnitude of this increase was substantially greater than that experienced by any other comparable group of entrepreneurs or managers during the same period. Such financial benefits helped to popularize a 'new morality' of economics amongst a large swathe of the farming community.<sup>51</sup>

A detailed study of the way that different types of farmers were affected by the War is problematic. The vast majority were not in the habit of keeping accounts, nor were they willing to subject their enterprises to scrutiny. Nevertheless a valuable insight into levels of profitability can be gleaned from the analysis of farm accounts compiled by provincial agricultural economists, the most comprehensive of which were undertaken by AERI at the University of Oxford. Based on a selected sample of farms, their studies showed that the larger farmers had fared considerably better than their smaller counterparts, irrespective of the managerial ability of individual farmers. The increased price levels for agricultural produce were, in these instances, frequently translated into increased profits which did not necessarily lead to a corresponding increase in investment in new, more productive methods. This was particularly evident in the case of arable farmers in the eastern counties who were already equipped for the large-scale production of cereal crops.<sup>52</sup> Conversely it was the pre-war traditional farmers who were most adversely affected by having to implement the committees' directives in an unquestioning way.

<sup>49</sup> Young, *Elmhirsts of Dartington*, p. 322.

<sup>50</sup> J.K. Bowers and P. Cheshire, *Agriculture, the countryside and land use* (1983), p. 61.

<sup>51</sup> Farmers Rights Association, *The new morality* (1944), pp. 1–3.

<sup>52</sup> Agricultural Economics Research Institute, *Farm income data, 1939–41*; personal communication from Professor G.H. Peters, Director of Institute of Agricultural Economics, University of Oxford, 1997.



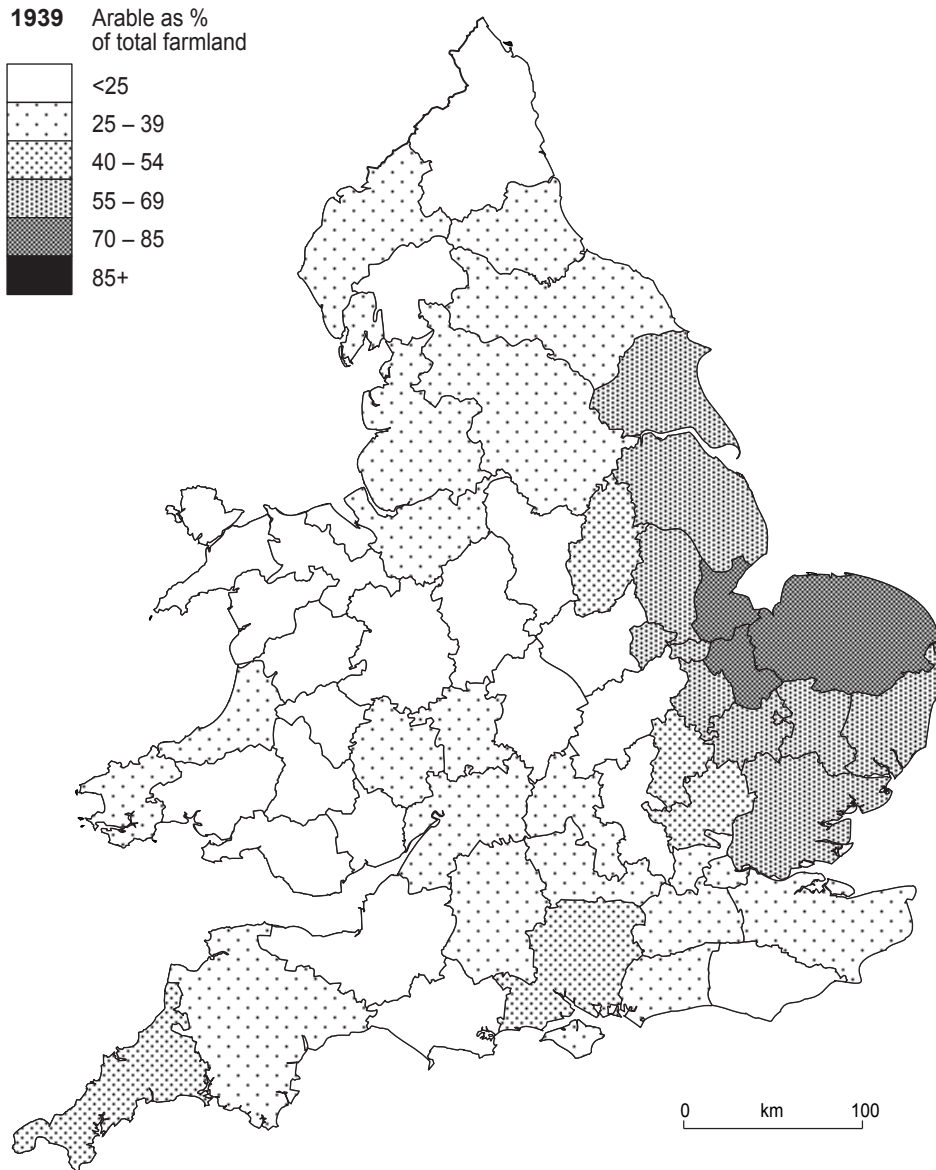


FIGURE 2.2. The tillage area in England and Wales, 1939

Source: Ministry of Agriculture, *Agricultural statistics, 1939–1945* (1947), Tables 1–50.

Smaller farmers in particular were more likely to be livestock producers involved in the dairy, cattle and sheep sectors which were now forced to shrink.

Inequities in the system of control were certainly recognized by wartime policymakers. As the Ministry of Agriculture explained:

One farmer may be called upon to plough up most of his farm or revolutionize his whole method of farming, with possible loss to himself, whilst his neighbour engaged in mixed



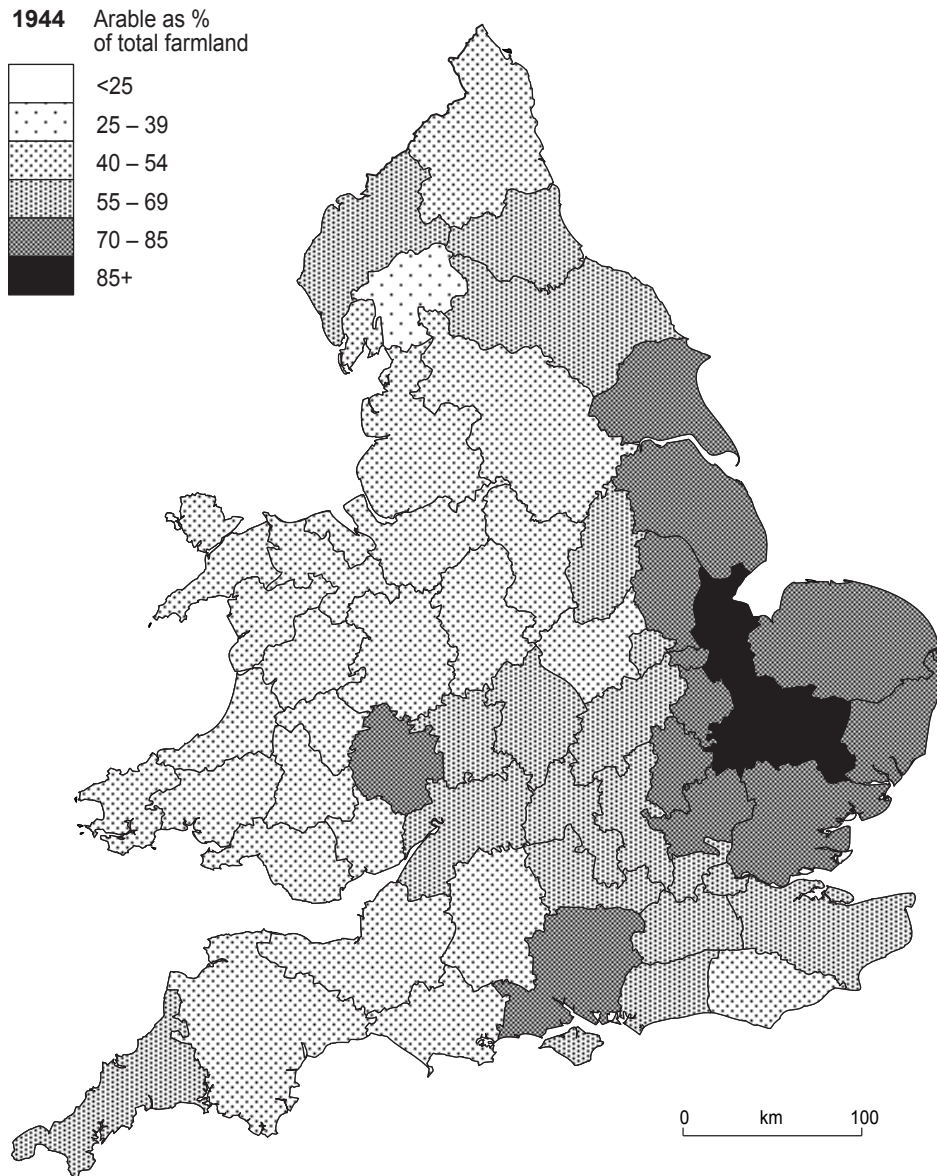


FIGURE 2.3. The tillage area in England and Wales, 1944

Source: Ministry of Agriculture, *Agricultural statistics, 1939–1945* (1947), Tables 1–50.

arable farming continues relatively undisturbed with increased profits. These are the fortunes of war, which it's difficult and often impossible to avoid.<sup>53</sup>

The official view, subsequently endorsed by the official history, is that the CWAECs were

<sup>53</sup> Ministry of Agriculture, *Notes on agricultural policy for those directing the food production campaign* (Ministry of Agriculture, Spring 1942), p. 4.

responsible for directing the food production campaign and for allocating ploughing-up orders in an objective and dispassionate way. The Minister himself was at pains to point out that there was no single incidence whereby the directives issued by CWAEC had done an injustice to an individual farmer. However, he later conceded that the decisions made by the Committees may have, on occasions, caused hardship for some individuals, and smaller farmers.<sup>54</sup>

#### IV

Murray's official history stressed the harmonious working relationship that existed between the CWAECs and the farming community. However in a personal interview he explained that in his initial draft he had referred to a number of instances, particularly in the early stages of the War, where there had been considerable friction. These reservations were not shared by the Assistant Editor of the series, W.E. Hancock, who insisted that such criticisms be deleted prior to publication.<sup>55</sup> The rationale for Hancock's assertion is that the vast majority of orders issued to farmers instructing them to plough up grassland or to carry out a multitude of other activities were adhered to without complaint. This is not surprising, given that it was policy to issue orders on every occasion, even when the farmer had already carried out a task.<sup>56</sup> But high levels of compliance in carrying out directives cannot necessarily be indicative of 'the success of executing government policy through voluntary committees comprised of farmers'.<sup>57</sup>

Opposition to wartime ploughing-up directives originated not only from the small minority of 'C' farmers, but also occasionally from their larger progressive counterparts, and even committee members. One example of this was Rex Paterson who, as we have seen, was by 1939 farming in excess of 10,000 acres, much of which was devoted to the outdoor bail system of milk production. However, he was classified by his local committee as a 'B' farmer, and subjected to a series of draconian directives, one of which required him to grow more than 800 acres of potatoes. The ongoing friction between Patterson and the Hampshire committee eventually led to the establishment of an independent investigation which drew attention to 'the vindictive policy of the Hampshire WAEC ... responsible for dispossessing quite a large number of farmers'.<sup>58</sup>

Not all members of the CWAECs endorsed the way in which their committees operated. For example Roland Dudley, a progressive farmer and exponent of mechanized farming, resigned from the Hampshire committee in protest at their alleged subversive activities.<sup>59</sup> In a similar vein the resignation of Colin Cope-Arnold, a leading member of the Warwickshire CWAEC, reflected his concern about the way his committee operated. But voluntary resignations of this type were isolated cases; it was much more usual for farmers to be relieved of their position on the county committee. However, as the *Farmers Weekly* was forced to admit, dismissing

<sup>54</sup> For details of the Minister's assertions, see 'Not one case of injustice', *Farmer and Stockbreeder*, 15 Dec. 1942, p. 369.

<sup>55</sup> Interview with Lord Murray, 2 Dec. 1986; Martin, 'Impact of government intervention', pp. 265–8.

<sup>56</sup> *Ibid.*, p. 271.

<sup>57</sup> Sir J. Winnifrith, *The Ministry of Agriculture, Fisheries and Food* (1962), p. 28.

<sup>58</sup> For a detailed analysis of the way CWAECs dispossessed farmers, see Martin, 'Impact of government intervention', pp. 261–80.

<sup>59</sup> J. Wentworth Day, *Harvest adventure* (1946), p. 251.

committee members in this way was 'the most effective gag yet administered to intelligent opinion and discussion of agricultural affairs'.<sup>60</sup>

It was not long before ad hoc organizations emerged to challenge the CWAECs' authority. The most important of these in terms of membership which, at its peak, amounted to between five and six thousand farmers, was the Farmers' Rights Association. Chaired by Sir Walter Blount, and ably assisted by the Secretary, L. V. Priestley, a solicitor from Church Stretton, the organization attempted to assist farmers threatened with dispossession orders and campaigned actively for the establishment of independent tribunals. It published three tracts about wartime controls, *Living casualties* which focused on dispossessed farmers, *The new morality* which cited three case studies of farmers who had been evicted and their holdings taken over by relatives of the CWAEC, and *Anarchy in farming* which dealt with the case of George Odlum of Manor Farm, Manningford in Wiltshire. The latter case again demonstrated the conflict that could arise between the state and its progressive farmers. Odlum, who had an international reputation for his advanced methods of dairy farming, sold his farm privately in June 1942 to Robert Hudson, the Minister of Agriculture. In August of the following year, the Wiltshire WAEC, issued to newspapers a typewritten itinerary of an agricultural tour of Manor Farm which the Committee was organizing, which stated that the farm had been in very poor condition prior to its change of ownership. Odlum asked the WAEC to retract this statement. After they declined, he launched an action for libel against the chair of the Wiltshire WEAC, Richard Stratton. When this was heard in 1946, Odlum was vindicated by the award of damages of £500 and costs against Stratton (all of which were paid by the Ministry of Agriculture).<sup>61</sup> Other protest organizations included the Farmers and Smallholders Association which campaigned avidly from 1943 for a reappraisal of those farmers who had been evicted for not carrying out wartime directives, in particular ploughing up orders. Self and Storing have attempted to dismiss it as a phantom organization, which merely provided a platform for small groups of people to direct their propaganda against wartime controls and subsidies. However its files contained detailed studies of more than 300 farmers who were dispossessed, many under rather dubious circumstances.<sup>62</sup> A group of localized importance was the Essex Farmers and Countrymen's Association, established in 1944 at Colchester, which attempted to draw national attention to the plight of small farmers who had been subjected to a spate of ploughing-up orders.

The wartime success of these groups was very limited, being largely ignored by the national press and often denigrated by wartime officials. Nevertheless the long-term impact of these campaigns finally changed the state's approach and the 1947 Agriculture Act granted farmers threatened with eviction the opportunity to appeal to an independent tribunal. While the cited examples of progressive farmers at odds with the systems of control demonstrate that not all farmers who were threatened necessarily wanted to stick to conventional low-input methods of farming, it is evident that the degree of opposition to wartime control was much more extensive than previously indicated, and came from the whole spectrum of farming abilities.

<sup>60</sup> For a more detailed account of the implications of dismissing members of the CWAECs, see *FW*, 10 Jan. 1940, p. 11.

<sup>61</sup> Odlum v. Stratton, *Verbatim report of proceedings*

before Mr Justice Atkinson (1946), pp. 567–88.

<sup>62</sup> P. Self and H. J. Storing, *The state and the farmer* (1962), p. 118. The original FSA files cannot now be located (personal communication, Prof. Peter Self).

## V

The achievements of the wartime resurgence of progressive farming appear, at first glance, to be overwhelming. The ploughing campaign was portrayed by wartime officials as a remarkable success, involving an overwhelming endorsement of progressive, mechanized arable farming. In the words of the Ministry of Food, 'By 1944 there had been, compared with pre-war production, a 90 per cent increase in wheat, 87 per cent in potatoes, 45 per cent in vegetables and 19 per cent in sugar beet'.<sup>63</sup> Murray subsequently endorsed this eulogy in his official history, claiming that it was 'without question a success story, successful far beyond the calculations and estimates of pre-war planners'.<sup>64</sup>

This prevailing orthodoxy about the wartime system of control was largely accepted by subsequent historians. Calder, for example, in his influential text *The people's war*, endorses the wartime achievements of the state directed food production campaign in increasing the area of arable to the level last obtained in the 1860s (the hey-day of British agriculture before the influx of cheap corn from the New World).<sup>65</sup> Similarly A.S. Milward in his *War, economy and society, 1939-45*, which provides a comparative analysis of the different countries involved in the War, praises not only the unparalleled achievements of the wartime ploughing-up strategy in extending the tillage area but also the significant increases in the yields of the principal crops.<sup>66</sup> However these accounts, which are an integral part of the conventional wisdom, failed to appreciate that the strategy upon which the ploughing-up campaign was based was flawed in a number of key respects. As the Select Committee on National Expenditure acknowledged in the early stages of the War:

The system was unscientific and conducive to error, if not injustice; that land was ploughed up which had better been grass and that land was ploughed which ought not to have ploughed and finally that concentration on ploughing fresh land led to the neglect of measures for much needed improvement of existing pasture and arable.<sup>67</sup>

The principal reason why the food production campaign was portrayed by contemporaries as an outstanding success was because of the wartime increases in the production of wheat and potatoes. As Table 2.2, extracted from Murray's official history, shows, wheat output peaked in 1943 at more than double its pre-war level. This success of the campaign enabled the population to be adequately fed despite the fact that, prior to the outbreak of hostilities, Britain was more dependent on imported food in general, and wheat in particular, than any other combatant. Indeed, bread, widely regarded as the staple component of the British diet, remained unrationed for the duration of military hostilities. However the increase in wheat production was the result not only of a favourable growing season in 1943 which had ensured slightly above average yields, but also, more importantly, due to the almost two-fold increase in the acreage of wheat in the same period as a direct result of the Ministry of Agriculture's strategic plan to maximize

<sup>63</sup> Ministry of Information, *How Britain was fed in wartime, 1939-45* (1946), p. 5.

<sup>64</sup> Murray, *Agriculture*, p. 340.

<sup>65</sup> A. Calder, *The people's war. Britain, 1939-1945* (1969), p. 418.

<sup>66</sup> A.S. Milward, *War, economy and society, 1939-1945* (1977), p. 252.

<sup>67</sup> House of Commons Paper 59 1940-1, *Select Committee on National Expenditure: Sixth Report, Agriculture*, p. 24.

TABLE 2.2. Index numbers of output of main arable crops in the United Kingdom, 1940–5  
(1936–7 to 1938–9 = 100)

<i>Crops</i>	<i>Harvest Output</i>					
	1940	1941	1942	1943	1944	1945
Wheat	99	122	155	209	190	132
Barley	144	150	189	215	229	276
Oats	149	167	183	158	152	167
All Grains	132	155	182	195	186	179
Potatoes	131	164	193	202	187	201
Sugar Beet	116	118	143	137	119	141
Vegetables	110	122	156	133	144	137
Fodder Crops	98	127	133	135	140	132

Source: Murray, *Agriculture*, p. 237.

TABLE 2.3. Estimated yield per acre of the principal crops in the UK for 1934–8 and 1939–44

		1934–38	1939	1940	1941	1942	1943	1944
Wheat	cwt.	18.6	18.5	17.8	17.6	<b>20.2</b>	<b>19.8</b>	<b>19.4</b>
Barley	cwt.	16.3	17.5	16.2	15.1	<b>18.6</b>	<b>18.2</b>	<b>17.7</b>
Oats	cwt.	15.7	<b>16.5</b>	<b>16.7</b>	<b>15.9</b>	<b>17.3</b>	<b>16.6</b>	<b>16.3</b>
Potatoes	tons	6.7	<b>7.3</b>	<b>7.7</b>	<b>7.0</b>	<b>7.4</b>	<b>7.1</b>	6.6
Sugar beet	tons	8.8	<b>10.3</b>	<b>9.7</b>	<b>9.3</b>	<b>9.4</b>	<b>9.2</b>	7.7

Note: Data for 1934–8 is a five-year average. Yields in **bold** are above the five-year average.

Source: *Agricultural statistics 1939–44, England and Wales* (1947), Part 1, Table 13, pp. 174–5.

production in that year. By 1945, wheat production had fallen back and was only 132 per cent of its pre-war level, well below that achieved in the previous two years. A similar but less noticeable pattern was also apparent in the case of potatoes and other cereal crops, the output of which rose primarily as a result of the increase in the area planted rather than as a result of any significant increase in yields (Table 2.3).

While there were substantial increases in total production originating from the arable sector, these were, to a large extent, offset by a very significant, enforced and concurrent decline in conventional livestock production, which was deemed to be less progressive. Livestock farming was severely curtailed by government policies, not only as a result of the reduction in imported feedingstuffs, but also by the ploughing-up of grassland. As Table 2.4 shows, milk production was three per cent below its pre-war figure by the end of the War, while beef and veal, mutton and lamb, pig meat and egg production showed falls of 8 per cent, 28 per cent, 65 per cent and 46 per cent respectively. Conventional wisdom has attempted to legitimize this modernizing process as a pragmatic response to the exigencies of war, but this argument is not totally persuasive. Serious doubts remain about the effectiveness of the wartime grading system which attempted to differentiate between what were regarded as the more progressive farmers and

TABLE 2.4. Index numbers of livestock output in the United Kingdom, 1940-5  
(1936-7 to 1938-9 = 100)

	1940-41	1941-42	1942-43	1943-44	1944-45
Milk	90	88	93	96	97
Beef and Veal	97	73	83	83	92
Mutton and Lamb	108	89	89	79	72
Pigmeat	87	38	35	32	35
Eggs	90	75	57	51	54

*Note:* Years run June-May.

*Source:* Murray, *Agriculture*, p.237.

those who remained committed to conventional, low output methods of pastoral farming. The methods employed by the CWAECs in practice raise significant concerns about their impartiality in the way that they dealt with individual farmers. More importantly, given the generous allocation of resources such as fertilizers and machinery, the economic gains derived from this transformation in crop yields were not that remarkable. The principal effect of wartime changes was to produce an unprecedented structural realignment of production with the emphasis on maximizing the output of specific arable crops, and thus heralding the ascendancy of progressive farming. A new morality emerged, with farmers now rewarded for becoming compliant beneficiaries of Whitehall officials, committed to a productivist system of arable farming, dominated by financial incentives linked to short-term economic objectives. This wartime redefinition of progressive farming, which was a pragmatic response to the exigencies of wartime food shortages, thereafter became a permanent feature of the way agriculture was treated by successive governments throughout the post-war period.



# Wartime productivity and innovation, 1939–45

by Paul Brassley

## Abstract

The volume of output of British agriculture did not increase much during the Second World War, although the total figure hides some important variations, since the emphasis was on the expansion of arable output at the expense of animal products. But the extent to which this arable output expansion simply resulted from increased inputs, as opposed to technical change, is still unclear. The purpose of this chapter is to examine these questions, and similar ones for the animal sector, to decide whether British agriculture's response to wartime conditions should be seen as intensification or innovation.

In November 1938 an American woman, married to an upper middle class Englishman and living in London, wrote home to her mother describing a recent evening's entertainment:

First had some oysters at Driver's and came to the sad conclusion that they aren't as good as the French ones – then went to the Command Performance at the Coliseum – supposedly a sort of top-notch variety show for the King and Queen. We had excellent seats with a good view of the Royal Box ... the King looked bored except for the comedian turns ... we went on to the Savoy for supper, and had a few dances and came home.<sup>1</sup>

The next day they lunched at the 500 Club and then drove down to their weekend cottage by the sea. By September 1941 life had changed:

[the cook] left just two weeks ago and since then I have been doing the housework, the cooking, looking after 52 animals, and working for the WVS. On Tuesdays and Thursday I work from 11–3 dishing up food at a hot plate in the British Restaurant ... It is very hot work, so will be lovely in the winter! On Wednesdays and Saturdays I spend the morning cleaning and disinfecting the geese, duck and hen houses. I shall start a manure factory soon as a sideline!<sup>2</sup>

This is just one example from what must be millions of stories illustrating the way the War turned the world upside down for those not directly involved in the fighting. People like Virginia Potter, whose pre-war contact with the realities of food production extended as far as concluding that French oysters were better than English, were now directly involved in it. Food imports competed for shipping space with oil and war materials, and a food-importing country

<sup>1</sup> A. Potter (ed.), *Shared histories. Transatlantic letters between Virginia Dickinson Reynolds and her daughter Virginia Potter, 1929–1966* (2006), p. 49.

<sup>2</sup> *Ibid.*, p. 115.



had to reduce consumption and increase output.<sup>3</sup> After the War, food consumers told stories of rationing and food producers of the enormous changes in wartime farming. They were backed up by the official histories and the unofficial memoirs. The conclusions were straightforward: British agriculture responded to the emergency with the British genius for improvisation, enormous tracts of previously under-used land were ploughed up to produce cereals and potatoes, output expanded dramatically, the country was fed, the War was won, and the agricultural industry had done its bit. 'Looked at in retrospect, the war effort of British agriculture takes on the aspect of a triumphal procession, with the hint of impeccable organization that such a procession always conveys.'<sup>4</sup> It was an influential story. The taxpayer continued to support the agricultural industry for the following 20 years with scarcely a murmur, and even in the 1990s it was still possible to write a novel (subsequently a film) telling the same tale.<sup>5</sup>

It was John Martin's revisionist account that brought historians back to the story, although the present author might also claim membership of the revisionist school on the strength of one sentence in an article on the twentieth century as a whole.<sup>6</sup> Not that the article considered the implications of the remark. The purpose of the present paper, therefore, is to disaggregate the wartime volume of output figures in that previous paper, make some more detailed calculations on the individual productivities of land, labour, capital and management, and examine technical change in wartime as far as published sources will allow. It may then be possible to come to some conclusions on the virtues of revisionism.

## I

The two most recent books on wartime farming are those by Martin and Wilt. The former discusses wartime output in terms of tons, calories and pounds sterling, and concludes that Murray's official history 'has tended to exaggerate the achievements of the food production campaign.'<sup>7</sup> Wilt, from a slightly different perspective, appears to be more equivocal. He quotes Martin's conclusions with apparent approval, but also argues that the government's pre-war plans were 'able to meet the challenge in supplying food for the nation.'<sup>8</sup> Murray, in a few pages, makes it very clear that assessing the achievements of wartime agriculture is by no means a matter of simple calculation. Clearly it is a question of the increase in home food production, but should that be measured in gross or net terms, in tons, or calories, or monetary terms? Each would produce a different answer, because tons of plant products do not have the same calorific content as tons of animal products, and one increased while the other diminished. Similarly, measuring output in monetary terms has to cope with the variation in the value of the currency

<sup>3</sup> On average, in the inter-war years, food, beverages and tobacco accounted for no less than 45 per cent of British imports. See T. Leisner, *One hundred years of economic statistics* (1989), p. 46.

<sup>4</sup> R. J. Hammond, *Food and agriculture in Britain, 1939-45: aspects of wartime control* (1954), p. 72.

<sup>5</sup> A. Huth, *Land Girls* (1995).

<sup>6</sup> J. Martin, *The development of modern agriculture: British farming since 1931* (2000); pp. 47-58; P. Brassley,

'Output and technical change in twentieth-century British agriculture', *AgHR* 48 (2000), pp. 60-84 (where I wrote 'The volume of output did not increase all that much in the Second World War ...').

<sup>7</sup> Martin, *Development of modern agriculture*, pp. 47-58.

<sup>8</sup> A. F. Wilt, *Food for war: agriculture and rearmament in Britain before the Second World War* (2001), pp. 222 and 224.

and the differential variations in prices between various commodities. Murray also makes the point that at least part of the objective was to save shipping space, so another test would be measured in shipping volume terms. The saving on food shipping space though would have to be tempered with the shipping space required to import agricultural machinery, fertilizers and food.<sup>9</sup> In 1946 Kirk quoted one estimate of net output increase as 120 per cent, if the output increase was measured in terms of shipping space saved.<sup>10</sup> And finally, since all the previous changes impact on food supply, the effect of demand changes should not be forgotten. Food consumers could do their bit by eating less, and by their willingness to include fewer foods of animal origin in their diet.

Much therefore depends on how the achievement is calculated. It is more art than science, and it was artfully used by post-war agricultural politicians to emphasize the agricultural contribution. But we should go further than this. It is relatively easy to increase output by increasing inputs, but it must be remembered that the inputs are scarce, and have alternative uses. Overy especially has argued that 'no war was more industrialized than the Second World War' and 'The Allies won because they turned their economic strength into effective fighting power'.<sup>11</sup> Every Land Girl might also have been employed in a factory or an anti-aircraft gun battery. The steel in every tractor might have gone into a tank. Even agricultural land had alternative uses as airfields or military training grounds, although there is little evidence that a desire to retain land in farming caused a shortfall of either. What matters, therefore, is output per unit of input, or productivity. But it is possible to increase labour productivity, for example, by employing more capital per unit of labour, or to put it more simply, to buy a tractor for the worker. Similarly, land productivity can be increased by increasing the quantity of labour applied per acre. What matters even more than individual factor productivities, therefore, is total factor productivity.

Martin argues that extra output came from extra inputs, but he does not go so far as to attempt either partial or total productivity calculations.<sup>12</sup> Given the difficulties of doing so, and some of the heroic assumptions necessary, it is hard not to have some sympathy for his approach. Nevertheless, it is worth making the calculations, imperfect as they may be, to see if they emerge with the same conclusions, and that is what is attempted in the following sections.

The methodology in this paper follows that used by Crafts.<sup>13</sup> He used the expression:

$$\frac{\Delta Y}{Y} = \alpha \frac{\Delta K}{K} + \beta \frac{\Delta L}{L} + \gamma \frac{\Delta T}{T} + r^*$$

in which  $\Delta Y/Y$  is the rate of growth of output,  
 $\Delta K/K$  is the rate of growth of the capital stock,  
 $\Delta L/L$  is the rate of growth of the labour force,  
 $\Delta T/T$  is the rate of growth of land,  
 $\alpha$ ,  $\beta$  and  $\gamma$  are the shares of profits, wages and rents in national income,  
and  $r^*$  is the rate of growth of total factor productivity

<sup>9</sup> Murray, *Agriculture*, pp. 240–4.

<sup>10</sup> J.H. Kirk, 'The output of British agriculture during the war', *J. Agricultural Economics Society* 7 (1946), pp. 30–45.

<sup>11</sup> R. Overy, *Why the allies won* (1996), pp. 207, 325.

<sup>12</sup> Martin, *Development of modern agriculture*.

<sup>13</sup> N. Crafts, *British economic growth during the industrial revolution* (1986), pp. 78–9.

although clearly in this chapter we are concerned not with the incomes and output of the whole economy, as Crafts was, but merely with the agricultural industry. The principles, however, remain the same. If, for example, output increased by ten per cent, and so did each of the inputs, each of which had an equal share of the industry's income, then all of the output growth would be explained by input growth, and total factor productivity growth would be zero. Conversely, an output increase of ten per cent without any growth in inputs would imply a total factor productivity growth of ten per cent. Some economists would also argue for the inclusion of a fourth factor: management or entrepreneurship. Although there are good arguments for the view that this would make sense in the case of an atomistic industry such as agriculture, the official statistics do not allow the rewards to management to be disaggregated from those to capital, so in fact  $K$  in the above equation refers, strictly speaking, to capital and management. The appropriate values to be inserted into the equation in order to calculate the value of  $r^*$  are discussed in the following sections

As already mentioned, Murray's estimates for the increase in UK wartime agricultural output vary considerably. Rather than choose one of these in preference to any other, the figure used here will be derived from the Ministry of Agriculture's Departmental Net Income Calculation (DNIC), adjusted to take account of changes in agricultural prices (see Table 3.1). Part of the annual variation in output is the result of good or bad seasons, so to attempt to eliminate this to some degree the last three years of the War are aggregated together. It appears, in any case, that output in those years was probably different from output in the first half of the War. This calculation suggests that a figure of eight per cent (i.e. the index for 1943–5 in Table 3.1) should be taken as the increase in output over the war years, so the figure for  $\Delta Y/Y$  is  $8/100 = 0.08$ .

According to Murray's figures, the total agricultural area decreased by 2.5 per cent during the early war years and was almost constant from 1943 to 1945.<sup>14</sup> This decrease was due in part to the increase in land holding by the services, but its impact on total output is uncertain. According to Murray, the services' land holding increased from 140,000 acres to 903,000 acres, so the reported loss of 600,000 acres from the total agricultural area between 1939 and 1945 only partly explains this. Much of the military take may have been from rough grazing, such as areas in Sherwood Forest around Ollerton in Nottinghamshire, the Yorkshire Pennines, and parts of Scotland and Wales. On the other hand, the area of rough grazing increased during the War, an anomaly which may possibly be explained by the way in which land in Scottish deer forests was returned in the June Census.<sup>15</sup> The major impact on the better land was undoubtedly from the creation of airfields. One source states that 684 new airfields were built during the War, and that a typical class A (i.e. not satellite or emergency) airfield required 1000 acres. Another quotes 500 acres as the typical size for a US bomber

<sup>14</sup> The figures are in Murray, *Agriculture*, p.373 and, as for Table 3.1 and all the following tables, they refer to the United Kingdom. They appear to be reliable, or at least to reconcile with those in Ministry of Agriculture, Fisheries and Food [MAFF], *A century of agricultural statistics* (1966), pp.90–92; H.F.Marks and D.Britton, *A hundred years of British food and farming: a statistical*

*survey* (1989), Tables 3.1 and 3.2; and L.Symons (ed.), *Land use in Northern Ireland* (1963) p.270. Thus the figure for land used in the total factor productivity calculation below is –2.5 per cent.

<sup>15</sup> Murray, *Agriculture*, pp.244 and 373; MAFF, *Century of agricultural statistics*, p.92. See also Figure 1.1 (p.3).

TABLE 3.1. Changes in the volume of UK agricultural output from 1935–9 to 1945

	UK agriculture gross output (GO) £m at current prices	Agricultural Price Index (API) at current prices	Volume of output (=100GO/API)	Index (1935–9 = 100)
1935–9	293	7.09	4132.6	100.0
1940	440	10.22	4305.3	104.2
1941	513	12.31	4167.3	100.8
1942	556	13.12	4237.8	102.5
1943	598	13.38	4469.4	108.2
1944	606	13.63	4446.1	107.6
1945	625	14.04	4451.6	107.7
average 1940–2			4236.8	102.52
average 1943–5			4455.7	107.82

Source: H. F. Marks and D. Britton, *A hundred years of British food and farming: a statistical survey* (1989), Table 7.2, p. 149; Brassley, 'Output and technical change', on which the methodology is based.

base in Suffolk.<sup>16</sup> Clearly the whole question of land use during the War would be well worth investigating in much more detail than is possible here. The loss of good Lincolnshire arable to airfields, or parts of Dorset to tank ranges for example, would be agriculturally much more significant than the conversion of deer forest to commando training areas.<sup>17</sup>

The greatest effect on output was from the conversion of permanent grass to form part of the arable rotation, as Table 3.2 demonstrates. The difference between the total area of arable and the area of crops other than grass is accounted for by temporary grass, the acreage of which increased by over 25 per cent from about 4 million to over 5 million acres. The cropped acreage increased by nearly 6 million acres, of which over 4 million went into extra cereals and 700,000 into potatoes.<sup>18</sup> The significance of this plough-up campaign is clearly enormous, and obviously enabled the output of calories to be increased, but it also raises an interesting question: was it the *arable* land output and productivity or the *total* land output and productivity that was more significant? Arable output increase was clearly the government's objective, most notably through the plough-up campaign. In calorific terms it clearly had some success, for example through the expansion of the potato acreage, which nearly doubled. This would obviously have a productivity impact.<sup>19</sup> Two land productivity calculations may therefore be worthwhile:

<sup>16</sup> I. B. Holley Jr, review of R. Higham, *Bases of air strategy: building airfields for the RAF, 1914–45* (1998), in *Technology and Culture* 42 (2001), pp. 814–5; D. Reynolds, *Rich relations: the American occupation of Britain, 1942–45* (1995), p. 296. For more detail see the chapter by William Foot in this volume.

<sup>17</sup> P. Wright, *The village that died for England: the strange story of Tyneham* (1996).

<sup>18</sup> Murray, *Agriculture*, p. 373.

<sup>19</sup> For example, Tony Harman was encouraged to grow potatoes on his stony Chiltern land: see T. Harman, *Seventy summers: the story of a farm* (1986), p. 176.

TABLE 3.2. Land use, 1936–45 ('000 acres).

	<i>Crops other than grass</i>	<i>Total arable</i>	<i>Permanent grass</i>	<i>Total agricultural area</i>
1936–9	8907	13,088	18,750	31,838
1940	10,455	14,346	17,084	31,430
1941	12,686	16,239	15,114	31,353
1942	13,635	17,498	13,706	31,204
1943	14,509	18,728	12,330	31,058
1944	14,548	19,273	11,735	31,008
1945	13,849	19,183	11,840	31,023

Source: Murray, *Agriculture*, p. 373.

total land productivity, i. e. total output  $\div$  total agricultural area

and

arable land productivity, i.e. arable crops output  $\div$  total crops (other than grass) area.

Of these, the former is easier to calculate because the volume of output figures have already been calculated in Table 3.1 and the total agricultural area in Table 3.2. The results are shown in Table 3.3, and suggest an overall output per acre increase of about ten per cent between the pre-war level and the second half of the War (i.e. 1943–5). In other words, the increase in land productivity, at 10 per cent, was a little greater than the increase in the volume of output (the  $\Delta Y/Y$  figure calculated above to be about 8 per cent).

However, the arable land productivity calculation, also shown in Table 3.3, suggests that the overall productivity increase was not simply brought about by the increase in arable cropping. This calculation is not absolutely straightforward because not all arable crops were for human consumption, and of those that were, a proportion would be used for animal feed; wheat was predominantly for human food, but the bran was used for animal food. This proportion varied as, for example, more bran was incorporated into the national loaf during the course of the War: milling offals used in animal feed declined from over 2 million tons per annum before the War to a little over 800,000 tons in 1944.<sup>20</sup> The simplest and crudest method of calculating the arable land productivity, which neglects the effect of real price changes, is to compare the total crop output with the total arable area. The presentation of the original data render this possible but more time consuming than using Murray's more aggregated data, from which comparable figures for the crops which accounted for 90 per cent or more of the arable area (cereals, potatoes, sugar beet, turnips and swedes, mangolds, vegetables, and fallow) can be extracted.<sup>21</sup> Adding the total tonnage of the output of these together, and then dividing by the acreage used to produce them, produces the figures in the final column of Table 3.3. Thus the trend in the

<sup>20</sup> CSO, *Annual abstract of statistics* 84, 1935–46 (1947), Table 200, p. 167. This also contains data on consumption of maize, oilcake and meal and fish and meat meals as animal feed. All the consumption figures fell during the

course of the war.

<sup>21</sup> Murray, *Agriculture*, pp. 373–5. The original data is in Ministry of Agriculture and Fisheries [MAF], *Agricultural Statistics, 1939–44. United Kingdom – part 1* (1947).

TABLE 3.3. Total land productivity and arable land productivity calculations.

	<i>Total land productivity 1986 £ per acre</i>	<i>TLP index</i>	<i>Tons of arable output per acre</i>
1935/6–9	129.8	100	3.655
1940	137.0		3.460
1941	132.9		3.331
1942	135.8		3.543
1943	143.9		3.283
1944	143.4		3.186
1945	143.5		3.154
1940–2	135.2	104.2	
1943–5	143.6	110.6	

Source: col.1: volume of output from col. 3 in Table 3.1 above, divided by total agricultural area from Table 3.2 above; col. 3: Murray, *Agriculture*, pp.373 and 375. For methodology see text.

tons of arable output per acre suggests that as the arable area increased the output per acre decreased, more or less steadily. This is not surprising, because although there would be some initial reward from stored fertility, offset to some extent by the impact of wireworm attacks, it would be expected that land converted from permanent grassland would probably be less suited to cropping than land which had remained in the arable rotation during the 1930s. However, it does imply that the increased volume of total output per acre cannot simply be explained by higher arable yields; rather, it seems more likely that total land productivity increased because the increase in arable output was not completely offset by the decrease in livestock output. Output per acre could also be affected by changes in other inputs and by technical change, both of which are examined below.

Although agricultural labour in this period is perhaps the input to which most attention has been given, both in contemporary memoirs and in academic studies, there are still shortcomings in the data and unresolved controversies in the analysis. The UK agricultural statistics give figures for the total agricultural workers and break them down by age and sex, but members of the Women's Land Army (WLA) and prisoners of war were only listed separately from 1944 onwards.<sup>22</sup> Since the replacement of a strong and experienced farmworker by an inexperienced boy or a less physically strong woman might have some impact on output, it has been generally agreed in previous work that the crude total of workers would be an inappropriate figure to enter into any productivity change calculation. Murray follows the calculations produced by H. T. Williams, who gives indices of man years calculated using conversion factors reflecting the potential output of each category of labour.<sup>23</sup> In Table 3.4 these are compared with the volume of output indices from Table 3.1. Insofar as these figures are compatible, they suggest that output was running ahead of labour input in 1940 and 1943, about level in 1941, and behind it in 1942,

<sup>22</sup> Murray, *Agriculture*, is not immune from the same aggregative tendency: his index entry is 'Women's Land Army – see under Manpower'.

<sup>23</sup> Ibid., p. 273; H. T. Williams, 'Changes in the productivity of labour in British agriculture', *J. Agricultural Economics* 10 (1954), pp. 332–45.



TABLE 3.4. Labour and output indices compared.

<i>Labour input indices</i>		<i>Gross output indices</i>	
1937-9	100	100	1935-9
1939-40	99	104.2	1940
1940-1	101	100.8	1941
1941-2	103	102.5	1942
1942-3	107	108.2	1943
1943-4	108	107.6	1944
1944-5	109	107.7	1945

Source: Murray, *Agriculture*, p.273; the gross output indices are those in Table 3.1.

1944 and 1945, but only in 1939-40 was the difference very much. If these figures can be trusted they suggest that the extra labour kept pace with increasing output, or, in other words, that labour productivity was more or less constant. However, Martin suggests that Williams might be criticized for underestimating the impact of new entrants to the farm labour force.<sup>24</sup> Therefore taking an average of the 1943-4 and 1944-5 figures from Table 3.4 for an estimate of  $\Delta L/L$ , which gives a figure of  $8.5/100 = 0.085$ , should be seen as a minimum estimate of the growth in labour, which will, if anything, result in an overestimation of labour productivity.

There are two sorts of capital in agriculture: fixed and working capital. The latter is much the smaller of these, forming between ten per cent and 20 per cent of the total by the mid-1970s, when detailed figures became available.<sup>25</sup> It consists of trading livestock, crops in the ground and in store, and sundry debts and cash. It is likely to be roughly proportional to output and is not really an input in the sense used in this discussion.

Fixed capital consists of buildings and works, plant and machinery, and breeding livestock. It is the last two of these that are especially important in the context of productivity, because they are potential or actual substitutes for labour. For example, milking parlours and tractors will increase the output of labour. Since higher wartime prices and government price guarantees would be expected to increase the confidence of farmers as investors, one might anticipate an increase in the level of investment in wartime. Conversely, expectations of damage from enemy action might restrict it. The only official statistics for capital formation relate to the economy as a whole. They show 'Gross capital formation at home' declining from £759 million in 1939 to their lowest level at £97 million in 1944.<sup>26</sup> A subsequent estimate put wartime investment in industrial buildings and works as a whole at less than half of its peacetime value.<sup>27</sup> But there are no official series for gross domestic capital formation in the agricultural industry alone, so it is necessary to find some proxy measurement which would be expected to behave in more or less the same way.

<sup>24</sup> J. Martin, 'The impact of government intervention on agricultural productivity in England and Wales, 1939-45' (unpublished Ph.D thesis, University of Reading 1992).

<sup>25</sup> Marks and Britton, *A hundred years of British food*

and farming, p.147.

<sup>26</sup> CSO, *Annual abstract* 84, 1935-46, p. 231.

<sup>27</sup> R. C. O. Matthews, C. Feinstein, and J. C. Odling-Smee, *British economic growth, 1856-1973* (1982), p. 333.



TABLE 3.5. Expenditure on farm maintenance, £ million.

	<i>at current prices</i>	<i>retail price index (1986=100)</i>	<i>at constant (1986) prices</i>
1937–40	5	4.89	102.3
1940–41	8	6.02	132.9
1941–2	11	6.81	161.5
1942–3	13	7.15	181.8
1943–4	13	7.33	177.4
1944–5	13	7.47	174.0

Source: H. F. Marks and D. Britton, *A hundred years of British food and farming: a statistical survey* (1989), Table 29.1, p. 260; the retail price index (RPI) is taken from Brassley, 'Output and technical change' p. 81; constant 1986 prices = current prices x 100/RPI.

One possible proxy is spending on farm maintenance, for which official figures are available (Table 3.5). They show that maintenance spending increased 160 per cent, although in real terms it only grew by seventy per cent. Most of this expenditure presumably reflects the costs of rescuing farm buildings from the ravages of depression, and is not the same as the formation of new capital assets. It would presumably also exclude expenditure on drainage, grants for which rose from £0.3 million to £1.1 million. Between 1940 and 1944 there were over 160,000 drainage schemes, covering more than four million acres, although only about 20 per cent of these were tile drainage schemes, the rest being mole ploughing or ditching.<sup>28</sup>

Another possible proxy is depreciation, which involves both buildings and machinery. If the relative proportions of buildings and machinery remain constant, depreciation will be proportional to capital investment. But increasing the proportion of machinery will increase the depreciation figure for a constant level of capital investment (because machinery wears out faster than buildings) and vice versa. Depreciation will also be affected by inflation, hence the calculation in Table 3.6, which shows that what would at first appear to be a doubling in depreciation is only a 52 per cent increase in real terms. Moreover, if there was indeed a greater emphasis on machinery as opposed to buildings, then the implied real change in capital formation was even less.<sup>29</sup>

A third possibility is to assume that most of the wartime capital investment was in new machinery, and to neglect buildings altogether. While it is unlikely that there were no new farm buildings during the War, it certainly seems reasonable to claim that investment in new machinery attracted the most attention from contemporary commentators, if only to judge from the large number of photographs of land girls on tractors. Therefore if it is possible to calculate the increase in the value of machinery, this could act as a proxy for capital formation. Since there were machinery censuses in 1942 and 1944 there is little difficulty at arriving at numbers of machines, for those two years at least.<sup>30</sup> Prices are more problematic, and it is

<sup>28</sup> Murray, *Agriculture*, pp. 129 and 384.

<sup>29</sup> It is interesting to note that Hill quotes figures which show *tenants'* capital doubling in money terms between 1938 and 1948–9, which implies a decline in real terms. See B. Hill, 'Resources in agriculture: capital',

in A. Edwards and A. Rogers (eds), *Agricultural resources* (1974), p. 141.

<sup>30</sup> MAF, *Agricultural statistics 1939–44. United Kingdom – part 1* (1947) p. 52.

TABLE 3.6. Depreciation in agriculture, £ million.

	<i>at current prices</i>	<i>retail price index</i>	<i>at constant (1986) prices</i>
1937–40	10.33	4.89	211.2
1940–41	16	6.02	265.8
1941–2	19	6.81	279.0
1942–3	20	7.15	279.7
1943–4	23	7.33	313.8
1944–5	24	7.47	321.3

Source: H. F. Marks and D. Britton, *A hundred years of British food and farming: a statistical survey* (1989), Table 29.4, p. 261; the retail price index (RPI) is taken from Brassley, 'Output and technical change' p. 81; constant 1986 prices = current prices x 100/RPI.

especially difficult to obtain wartime prices, but it is possible to interpolate between pre-war and post-war sources.<sup>31</sup> Multiplying all the machines for which there are both 1942 and 1944 figures by their estimated (1944) prices, the increase in the value of machinery was £22.4 million, of which more than half was accounted for by the increase in tractors. The total value of machines in 1942, at 1942 prices, was £117.2 million, so the increase represented a change of 19.12 per cent in two years. Adopting the same rate of change therefore enables us to estimate the values of machinery at various points in time, as shown in Table 3.7. If the changes between the pre-war years and 1942 seem large, it is worth remembering that there were only 55,000 tractors in 1939, so another 50,000 tractors by 1942 would be worth between £10 million and £15 million.<sup>32</sup>

These three proxies for capital formation therefore give significantly different values. Taking the 1944 figure for machinery to avoid possible distortions from post-1945 harvest purchases (Table 3.7) gives an increase of about 90 per cent from the pre-war years. The figure derived from depreciation, at 52 per cent (Table 3.6) is lower because it includes buildings, upon which less attention was focussed than machinery. The data for maintenance (Table 3.5) gives a figure (72 per cent) which is roughly midway between the previous two estimates. Despite their variability, therefore, the figures do at least consistently suggest a significant increase in the use of capital. Using the figures for volume of output in Table 3.1 (in constant 1986 pounds sterling), the figures in Table 3.7 show a pre-war output of £53.9 per pound of machinery, compared with only £30.6 per pound of machinery in 1944. This represents a significant decrease in capital productivity.

From the data above we can now insert values for the changes in land, labour and capital in Crafts' equation to calculate total factor productivity. However, we still need to value the coefficients used to weight inputs by their share of income, i.e. values for  $\alpha$ ,  $\beta$  and  $\gamma$ , the shares of profits, wages and rents in national income. The following paragraphs explain how this is done

<sup>31</sup> J. H. Hyde, 'Report on implements at the Harrogate Show, 1929', *JRASE* 90 (1929), p. 257; T. Close, 'Report on new implements, Wolverhampton Show, 1937', *JRASE* 98 (1937), pp. 476–88; H. M. Hughes and A. C. Williams, 'The use of machinery on the farm', in J. A. Hanley (ed.), *Progressive farming: the maintenance of high production*

(1949), p. 124. I am especially grateful to Philip Halse, of Messrs Halse of Honiton, for showing me the early editions of his firm's catalogues and price lists, and to Charles Brassley for his help in data input.

<sup>32</sup> R. G. Stapledon, *Farming and mechanised agriculture* (4th edn, 1950), p. 337.

TABLE 3.7. Estimates of machinery values.

	£ million	index
pre-war (i.e.1938)	76.625	100
1940	94.743	123.6
1942	117.148	152.9
1944	145.528	189.9
1945	173.357	226.2

Source: see text.

for the year 1939–40; similar operations were also carried out for the other war years, and the results averaged to give proportions relating to the whole wartime period.

The most straightforward of these calculations is the coefficient for land. The income or return to land is rent, and the Ministry of Agriculture's Departmental Net Income Calculation (DNIC) values rent at £45 million in 1939–40.<sup>33</sup>

Labour is provided by employed labour, and also by the physical (as opposed to managerial) labour contributed by the farmers themselves. The cost of employed labour for 1939–40 in the DNIC is £72.5 million. There were 711,000 workers in total in Great Britain in 1939, which implies that on average each one received just over £100 per annum. This seems like a reasonable figure, given that the statutory minimum wage at the time was £1 19s. 5d. per week.<sup>34</sup> Clearly not all workers worked full time, but equally not all received only the minimum wage. However, as a valuation of the physical work contributed by the farmer in that year, it is as good a figure as any other. The number of holdings over five acres in Great Britain in 1944/5 was 353,463.<sup>35</sup> Since no exact figure is given for 1939–40, let us assume that there were about 350,000 holdings at the beginning and end of the War. Thus the value of physical labour by farmers in 1939–40 was 350,000 x £100 = £35 million. Adding this to the £72.5 million paid to employed labour gives a total return to physical labour of £107.5 million.

The farming net income figure in the DNIC includes the return to the farmer's managerial effort, risk bearing, and capital invested, as well as his physical labour. If we subtract the return to physical labour calculated above from the farming net income, we are therefore left with the return to management, own capital, and borrowed capital (which was probably only a small proportion of the total capital in agriculture at this point in time). Since we have no means of valuing the return to management, the figures for capital (K) in the Crafts equation have to be weighted by the return to management and capital. This will cause some inaccuracy if farmers increased their managerial effort during the War, which seems quite possible, but the problem is insurmountable. The return to capital and management, therefore, is farming net income minus farmers' physical labour, which for 1939–40 is £(110.5 – 35 =) 75.5 million.<sup>36</sup>

<sup>33</sup> MAF, *Century of agricultural statistics*, Table 32.

<sup>34</sup> *Ibid.*, pp. 62 and 65.

<sup>35</sup> Calculated from *ibid.*, pp. 20–22.

<sup>36</sup> It might also be argued that this figure should be reduced to take account of the labour contributed by other

members of farmers' families, especially spouses, who do not appear in the agricultural statistics, but in the absence of any straightforward quantification method this has not been attempted here.

Therefore for 1939–40, total returns are

	<i>£ million</i>	<i>proportion</i>
rent	45.0	0.20
labour	107.5	0.47
capital and management	75.5	0.33
total	228.0	1.00

But we cannot be certain that these proportions remained the same for each of the war years; in fact, rents were controlled, employed wage rates were subject to the decisions of the wages board, and the return to management and capital was a residual. Therefore we must perform the same operation for each of the war years and take the average figure for the proportions, which gives the values:

rent	$0.13 = \gamma$
labour	$0.49 = \beta$
capital and management	$0.38 = \alpha$

Using the figures calculated above for changes in output, land etc we can summarize the data as follows:

	<i>Pre-war</i>	<i>1943–5</i>
output	100	107.82 – say 108
land	100	97.5
labour	100	108.5
capital/management	100	190 (taking the highest figure for the initial calculation)

and from these figures we can calculate the relative changes in output and inputs as

output	$108 - 100 = 8$	so $\Delta Y/Y = 8/100 = 0.08$
land	$97.5 - 100 = -2.5$	so $\Delta T/T = -2.5/100 = -0.025$
labour	$108.5 - 100 = 8.5$	so $\Delta L/L = 8.5/100 = 0.085$
capital/management	$190 - 100 = 90$	so $\Delta K/K = 90/100 = 0.9$

and putting these into the Crafts equation:

$$\frac{\Delta Y}{Y} = \alpha \frac{\Delta K}{K} + \beta \frac{\Delta L}{L} + \gamma \frac{\Delta T}{T} + r^*$$

and rearranging,

$$r^* = 0.08 - (0.38 \times 0.9) - (0.49 \times 0.085) - (0.13 \times -0.025)$$

$$r^* = -0.30040$$

which means that total factor productivity growth between the pre-war years and 1943–5 was *minus* 30 per cent.

This rather startling figure is largely influenced by the estimated change in capital formation.

TABLE 3.8.  $r^*$  values (in per cent) and changing assumptions in the productivity calculation

	(1) if $\Delta L/L = 0.085$			(2) if $\Delta L/L = 0.125$		
	$\Delta K/K =$					
$\Delta Y/Y$	0.9	0.52	0.26	0.9	0.52	0.26
0.08	-30	-15.6	-5.7	-32	-17.6	-7.7
0.15	-23	-8.6	+1.3	-25	-10.5	-0.6
0.25	-13	+2.2	+11	-15	-0.9	+5.6

Source: see text.

There are alternative figures that could be used instead, and not only for the change in capital but for changes in output and labour too. If we use the depreciation figures instead (see Table 3.6) to estimate the change in capital at 52 per cent, the decrease in TFP is reduced to about 15.6 per cent. And if we argue that even though there was little investment in buildings, the building stock still represents a significant proportion of the initial capital stock, so we should reduce the capital growth to (an arbitrary) half of the depreciation figure, the TFP decrease is further reduced, to minus 5.7 per cent. Similarly, the output estimates could be increased: J. H. Kirk, writing just after the War, quoted a 25 per cent increase, although Williams later argued that 15 per cent was more likely.<sup>37</sup> Martin argues that Williams's labour estimates understate the contribution of the WLA and POWs, so we might arbitrarily raise the labour increase to 12.5 per cent.<sup>38</sup> Incorporating the effect of all these changes produces the sensitivity analysis given in Table 3.8, which reveals that only the more extreme assumptions produce positive values for  $r^*$ . In other words, the assumptions behind the TFP calculation can be changed dramatically, but in most cases they still produce a negative growth in total factor productivity. All this suggests that wartime expansion was due not so much to technical change as to increasing inputs brought about by higher prices, which resulted in diminishing physical returns. Pip Stanley, a Dorset farmer, remembering these years, put it succinctly: 'The whole of agriculture post 1940 was financially motivated. If they wanted something, they put the price up and it arrived.'<sup>39</sup> Far from the traditional image of war stimulating a wave of output-increasing technical change and using every national resource as efficiently as possible, it appears that agriculture was only managing to produce a reduced diet by using as many scarce resources as it could lay its hands on. But is this consistent with what emerges from a study of individual technical changes?

## II

The technical changes that occurred during the War can be divided into those involving the increased adoption of existing techniques, and those which were themselves wartime innovations. Among the former were changing feed and fertilizer use, land reclamation and drainage, mechanization, and disease control, while the latter included new crop varieties, pesticides, and artificial insemination. Each of these will be examined in turn.

<sup>37</sup> Kirk, 'Output of British agriculture'; Williams, 'Changes in the productivity of labour'.

<sup>38</sup> Martin, *Development of modern agriculture*, p. 55.

<sup>39</sup> P. Hennessy, *Never again: Britain, 1945-51* (1993).

Increased use of purchased animal feedingstuffs was associated with high farming in the nineteenth century. High inputs produced high outputs, sold at relatively high prices. When prices fell at the end of the century, feed consumption did not, however, fall with them, because feeding low-priced cereals still paid at lower output prices. Whereas farmers were using about six million tons of feedstuffs in each of the five years before the First World War, they fed nearly nine million tons per annum in the five years before 1939.<sup>40</sup> But with the increased demands on shipping space in wartime they faced restricted and expensive feedstuff supplies. One response to this was simply to cut output: specialist pig and poultry units dependent upon purchased feed shut down, and pig and poultry numbers fell. Another approach was to look for alternative sources of feed. In the case of pigs, especially, this led to the establishment of swill collections and pig clubs. It also produced investigations of alternative feeds by agricultural scientists. The *Journal of the Royal Agricultural Society (JRASE)* included regular wartime surveys of research in animal nutrition, by Woodman of Cambridge or Godden of the Rowett. These contained many discussions of the possibilities of feeds such as lawn clippings, silage, whale meat meal, cooked potatoes for poultry, and cocoa meal for pigs.<sup>41</sup> None was very successful. Many of the new or little-grown experimental crops were intended for livestock feed. They included rape, kale, roots, lucerne, sainfoin, lupins, peas, beans, maize and rye. None of these could seriously be claimed as innovations – with the exception of lupins they would all have been familiar to many nineteenth-century farmers – but they were advanced as ways of increasing the intensity of arable cropping. Douglas Bell, discussing these issues in 1943, pointed out the lessons that might be learned from the pre-war German drive for self-sufficiency, and in particular their use of catch crops.<sup>42</sup>

Interesting as they were, these developments had a limited impact. The major change in wartime livestock feeding was the switch from purchased concentrates and permanent pasture to temporary grass and fodder crops. The average yield of seeds hay between 1934 and 1943 was reported as 40 per cent higher than the yield of meadow hay. Consequently, although the acreage of meadow hay nearly halved between 1939 and 1945, and the corresponding acreage increase in seeds hay was only about 50 per cent, total hay production was very nearly maintained.<sup>43</sup> Increased use of silage was also advocated, and may have reached about a million tons by the end of the War, but in terms of feeding value that was only equivalent to about 5 per cent of the hay crop.<sup>44</sup> Production of fodder roots (turnips, swedes and mangolds) rose by about one third between 1939 and 1945, although this was only enough to replace about one tenth of the decrease in imported metabolisable energy from cereals and oilcakes and one twentieth of the decrease in imported protein.<sup>45</sup> The attempt to replace imported feeds by home-grown substitutes was, it appears, largely unsuccessful. Murray argues that the feedstuffs supply, measured in

<sup>40</sup> Brassley, 'Output and technical change', p. 72.

<sup>41</sup> H.E. Woodman, 'The feeding of livestock', *JRASE* 102 (1941), pp. 66–81; W. Godden, 'The feeding of livestock', *JRASE* 104 (1943), pp. 46–54.

<sup>42</sup> G.D.H. Bell, 'Crops and plant breeding', *JRASE* 104 (1943), pp. 8–17.

<sup>43</sup> MAF, *Agricultural statistics, 1939–44. United Kingdom – part 1* (1947), p. 41; MAF, *Agricultural statistics,*

1948–9. *United Kingdom – part 1* (1952), p. 21.

<sup>44</sup> P. Brassley, 'Silage in Britain, 1880–1990: the delayed adoption of an innovation', *AgHR* 44 (1996), pp. 72 and 74.

<sup>45</sup> Calculated from figures in Murray, *Agriculture*, p. 238; MAF, *Agricultural statistics 1948–9. United Kingdom – part 1*, p. 20; P. McDonald, R.A. Edwards, and J.F.D. Greenhalgh, *Animal nutrition* (1966), pp. 372–3.

TABLE 3.9. Nutrients from artificial fertilizers and farm animals ('000 tonnes).

	nitrogen			phosphorus		
	animal	artificial	total	animal	artificial	total
1939	285–820	60	345–880	93–150	170	263–320
1945	262–729	172	434–901	82–127	346	428–473

Source: P. Brassley, and P. O'Sullivan, 'Freshwater eutrophication and agricultural change in the United Kingdom since the mid-nineteenth century' (unpublished draft paper, University of Plymouth, 1997).

starch equivalent, fell by 25–30 per cent, of which the fodder crops, hay and grazing supply fell by 20 per cent and the supply of concentrates by 50 per cent.<sup>46</sup> Debatable as these figures may be, the conclusion is clear: the response to changes in animal feed supplies had to be made by the consumer, through restricted rations of meat, eggs, and dairy products.

In comparison with their post-war successors, pre-war farmers were unenthusiastic about artificial fertilizers. As Murray says, it was partly a matter of low output prices and partly of ignorance and prejudice. Fertilizers were rationed in wartime, but even so farmers did not use all the nitrogenous fertilizer available in the first two years of the War. Murray's figures for the increases in fertilizer use from pre-war to 1945 look impressive at first sight: 50 per cent in the case of potassium, doubling for phosphorus, and a threefold increase in nitrogen use.<sup>47</sup> But it must be remembered that artificial fertilizers were only a part of the total nutrient load reaching British soils. The figures for the output from farm animals are controversial (hence the wide ranges in the figures), but the calculations in Table 3.9 make it clear that the increase in total available nutrients was much less than the increase in artificials: only about 25 per cent for nitrogen and 62 per cent for phosphorus using the most favourable assumptions.

The numerous photographs of Land Girls driving big Gyrotillers to clear scrub from permanent pasture suggest that land reclamation was given a high priority during the War. Whether this was major clearance work that brought previously unfarmed land into agriculture, or simply returning to the arable rotation land that had become permanent pasture between the wars is difficult to say from the official statistics. The reports in the *JRASE* reveal considerable differences between different areas, from ploughing and reseeding old grassland in the Yorkshire Dales to growing potatoes high up Welsh mountains. The other side of the coin was wireworm damage: 'in time of war, when large acreages of grassland of all grades are ploughed, the limitation of loss caused by wireworm forms a major agricultural problem.'<sup>48</sup> Clearly the cultivated area was increased, but the impact on output is difficult to quantify.

It is easier to quantify drainage works, for which detailed figures are given in Murray. These show that over 4 million acres – equivalent to about one third of the 1945 arable acreage – were subject to drainage schemes. However, this should not be confused with Dr Philip's figure of 4.5 million for the entire acreage drained between the 1840s and the 1870s. The

<sup>46</sup> Murray, *Agriculture*, p. 239.

<sup>47</sup> *Ibid.*, pp. 258–9.

<sup>48</sup> H. W. Miles, F. R. Petherbridge, and S. G. Jary, 'Wireworms and agriculture', *JRASE* 102 (1941), p. 171; see also

W. J. West *et al.*, 'Experiences in land reclamation', *JRASE* 102 (1941), pp. 98–135; E. H. Savill *et al.*, 'Experiences in land reclamation', *JRASE* 104 (1943), pp. 80–117; J. Cherington, *On the smell of an oily rag* (1979), pp. 95–6.



nineteenth-century figure referred entirely to tile drainage, whereas only 33,556 out of nearly 164,000 wartime schemes – about one fifth – were for tile drainage. Another ten per cent were for mole drainage, and the remaining 70 per cent were for ditching.<sup>49</sup> Thus, while the overall figure looks impressive, and no doubt free-running ditches helped to carry water off the land more effectively, the impact, especially on heavy land, would not be as great as might be expected from a tile drainage scheme.

The machinery censuses of 1942 and 1944 reveal the extent of the expansion of machinery use in the war years, and individual farmers such as Tony Harman tell confirmatory tales. He bought a tractor, a combine, and a baler, all of them American, and a grain dryer.<sup>50</sup> The mechanization of milking was also stimulated, and by the end of the War half the dairy farms had milking machines, and more than half of the cows were being machine milked.<sup>51</sup> Apart from the obvious increase in output, one reason for mechanization was presumably that it was easier to train Land Girls to drive tractors than horses and to milk by machine rather than hand. Clearly using tractors also reduced the need to feed horses and thus freed shipping space for more immediately useful cargoes. On the other hand, it increased the demand for oil, and it is interesting that advertisements for David Brown tractors and Massey-Harris combines in 1943 contained the slogan 'Tractor fuel: we won't waste it, sailor'.<sup>52</sup> It would be interesting to calculate the shipping space saved by reduced grain imports and compare it with the extra required for machinery and fuel. It is also worth remembering that machinery and spares were not always easily available. Even in 1946 the firm of Halse of Honiton found it necessary to include remarks on availability in their machinery catalogue. There was a waiting list for elevators and hay loaders, the position for ploughs and spring drags was improving but tedders and side rakes were 'slow' and mowers 'very bad'.<sup>53</sup> Pneumatic tyres, being made of imported rubber, were also difficult to obtain, and so many tractors were sold on (metal) spud wheels, which made them less useful for road work.

Tuberculosis, brucellosis and mastitis were the main items of concern in the *JRASE*'s surveys of animal disease research work throughout the War, and it appears that there were no real breakthroughs in the treatment of the first two. It is interesting that by 1942 there were experiments in using sulphanilamide drugs for mastitis, although it seems from the report on these in 1944 that they were still some way short of widespread adoption.<sup>54</sup> Nevertheless, they are interesting as one of the first examples of successful chemical treatments for veterinary problems. Another was the use of phenothiazine as an anthelmintic. Changes in veterinary treatments, their introduction, adoption, and effects would be an interesting area for further research, because little seems to be known about them at present. The other veterinary issue is Foot and Mouth Disease. In the late 1930s this was widespread in continental Europe, and by the early

<sup>49</sup> Murray, *Agriculture*, p.129; P.Brassley, 'Farming techniques', in E.J.T.Collins (ed.), *The agrarian history of England and Wales VII, 1850-1914*, (2 vols, 2000), I, p.519.

<sup>50</sup> Harman, *Seventy summers*, pp.191-5.

<sup>51</sup> E.H. Whetham, 'The mechanisation of British farming, 1910-45', *J. Agricultural Economics* 21 (1970), pp.317-31. Miss Whetham's article went into much more detail than is possible here on the reasons for adoption

and non-adoption of machinery at various times.

<sup>52</sup> Advertisements for David Brown tractors and Massey-Harris combines in *JRASE* 104 (1943), p.1.

<sup>53</sup> I am most grateful to Philip Halse for providing me with a copy of this catalogue.

<sup>54</sup> T.Dalling, 'Diseases of animals', *JRASE* 103 (1942), pp.12-21; id., 'Diseases of animals', *JRASE* 105 (1944), pp.13-23.

1940s it had spread to the UK, but there was no official report on it (in contrast to every other major outbreak of the disease in the twentieth century) and it seemed to pass without comment in the *JRASE* and the Ministry's *Journal*.<sup>55</sup>

Genuine innovations, as opposed to greater use of existing technology, were rare in this period. This is probably not surprising, because agricultural innovations often require long periods of testing before they become fully established. As the Agricultural Improvement Council for England and Wales (AIC) pointed out in January 1944, 'The greater part of the Council's work is concerned with problems which do not admit of any immediate solution.' An examination of the problems mentioned in the AIC's 1944 and 1945 reports illustrates this. They included hill sheep farming, artificial insemination (AI), supply of fruit plant stocks, production of seed potatoes, deterioration of cereal varieties, wireworm damage, approval of insecticides and fungicides, trace element deficiencies, cultivation methods, sewage sludge, broccoli breeding, sunflowers, maize, and iodinated potatoes for dairy stock.<sup>56</sup> Of these, perhaps only wireworm damage might be seen as a direct result of, or response to, wartime problems. With the benefit of hindsight, the most significant would be crop varieties, pesticides and AI.

Many of the crop varieties used in wartime Britain had been in existence for many years. As Tony Harman, who farmed in the Chilterns and was clearly innovative in his machinery policy pointed out, 'the varieties of grain we could grow were the same as we had always grown and there was a limit to the amount they would yield.'<sup>57</sup> The recommended list of winter wheats published in September 1944 included Squareheads Master, a nineteenth-century variety, Little Joss, bred in 1905, Yeoman (1916) and Holdfast, bred in 1935. Eighty per cent of the barley acreage was in two varieties, Plumage-Archer, bred in 1905, and Spratt-Archer, bred in 1908. Perhaps the greatest innovation was in actually having a recommended list, a suggestion made in an AIC report.<sup>58</sup>

Pesticides may be divided into herbicides, fungicides and insecticides. In 1943 the Ministry of Agriculture and Fisheries instituted a voluntary approval scheme for insecticides and fungicides, which were classified into various groups: lead arsenate powders and pastes, lime sulphur washes, tar oil winter washes, and organo-mercury seed dressings.<sup>59</sup> Although lindane (BHC or HCH) and DDT had been discovered before the War they do not seem to have been widely used for agricultural purposes until after it. The story was similar for herbicides. Work on plant hormone-based weedkillers began before the War, but the first two of these, 2,4 - D and MCPA, were not widely used until later.<sup>60</sup> When G. E. Blackman, one of the leading UK workers on herbicides, wrote an article on the control of annual weeds in cereals in the *Journal of the*

<sup>55</sup> BPP, 1953/4, XIII, p. 561. *Report of the Departmental Committee on Foot and Mouth Disease, 1952-4* (Chairman Sir Ernest Gowers) (Cmd 9214), p. 10.

<sup>56</sup> Anon., 'Agricultural Improvement Council for England and Wales: a note on progress', *AJMA* 50 (1944), pp. 464-8; Anon., 'Agricultural Improvement Council for England and Wales: second note on progress', *AJMA* 51 (1945), pp. 514-8.

<sup>57</sup> Harman, *Seventy summers*, p. 176.

<sup>58</sup> Anon., 'Winter wheat: list of recommended varieties',

*AJMA* 51 (1944), pp. 258-61; Anon., 'Agricultural Improvement Council for England and Wales: second note on progress'; Brassley, 'Farming techniques', pp. 525-6; N. T. Gill and K. C. Vear, *Agricultural botany* (1958).

<sup>59</sup> Anon., 'Officially approved insecticides and fungicides', *AJMA* 50 (1944), pp. 478-80.

<sup>60</sup> K. L. Blaxter, and N. Robertson, *From dearth to plenty: the modern revolution in food production* (1995), pp. 91-2 and 97.

*Ministry of Agriculture* in April 1944, he mentioned sulphuric acid, DNOC, and copper chloride, but nothing more, although he did preface his article with enigmatic statements to the effect that 'other compounds are being investigated' and 'developments in the field of chemical weed control are likely to be rapid'. Curiously, Tony Harman claims to have used Agroxone, which was a commercial name for MCPA, during the War.<sup>61</sup> But presumably it was not in widespread use, although this is a point worthy of further investigation.

The first artificial insemination centre in the UK began work at Cambridge in 1942. The technique was based on pre-war work in Russia, Denmark and the USA as well as Britain, and its purpose was to bring better genetic material to small herds that could neither afford nor fully utilize expensive bulls. The Agriculture (Miscellaneous Provisions) Act of 1943 established the principle of Ministry of Agriculture licensing for AI centres, and by January 1945 13 AI centres had been licensed. In 1944–5, the earliest year for which figures are available, 16,000 first inseminations were carried out in England and Wales. Since there were at that time about two million cows and heifers in milk in these countries, the impact cannot have been very significant.<sup>62</sup>

The overall impression, therefore, is that there were few genuine innovations during the War, and that the few there were made their biggest impact later. As Tony Harman wrote, 'we made no real progress until after the War'.<sup>63</sup>

### III

In 1959, 30 cwt an acre was considered a decent wheat yield. Twenty years before that the figure would have been 18–20 cwt. And 20 years before that, about 16–18 cwt.<sup>64</sup> The point is that the change between 1939 and 1959 is much greater than that between 1919 and 1939. This applies not only to wheat yields, but to agriculture as a whole. A young farmer in 1914, if he survived the depression, would still be farming in 1939, and quite possibly using essentially similar techniques. The horse may have been in decline in 1939, but there were still 30 of them for every tractor. Most corn was still being harvested by that wonder of the nineteenth century, the self-binding reaper, and threshed by another nineteenth-century invention.<sup>65</sup> The bulk of the ploughs were horse ploughs, there were still plenty of the cup feed drills that Smyths had been making since the nineteenth century, the cereal varieties were often those bred before the First World War, and the arable rotations had hardly changed. The only major difference was the introduction of sugar beet. There was much more grass on the national farm in 1939 than there had been 20

<sup>61</sup> G. E. Blackman, 'Alternatives to sulphuric acid for the control of annual weeds in cereals', *AJMA* 51 (1944), pp. 38–41; Harman, *Seventy summers*, p. 209; Cherrington, *On the smell of an oily rag*, pp. 99–100.

<sup>62</sup> Brassley, 'Output and technical change' p. 71; J. Mackintosh and S. Bartlett, 'The artificial insemination of cattle', *JRASE* 105 (1944), pp. 175–89; Anon., 'Artificial insemination of cattle', *AJMA* 51 (1945), pp. 529–32; MAF, *Agricultural Statistics 1939–44. United Kingdom – part 1*, p. 173.

<sup>63</sup> Harman, *Seventy summers*, p. 186.

<sup>64</sup> MAF, *Century of agricultural statistics*, p. 108.

<sup>65</sup> '... and no longer shall the reaper fare afield in the morning with his hook over his shoulder, and smite and bind and smite again till the sun is down and the moon is up; but he shall draw a thing made by men into the field with one or two horses, and shall say the word and the horses shall go up and down, and the thing shall reap and gather and bind, and do the work of many men', William Morris, 'A dream of John Ball' [1888], in C. Wilmer (ed.) *News from nowhere and other writings* (1993), p. 32.

years earlier, and liquid milk production was a more important part of agriculture than it had been, but the cows were still more likely to be Shorthorns or their crosses than anything else, and nine out of every ten would be hand milked.

The essentials of farming in the early 1940s were not very different from those of the 1914–18 period, but while First World War agriculture in Britain has been characterized, most recently by Peter Dewey, as a failure, or at best only a partial success, the Second World War story is different.<sup>66</sup> Farming fed the nation, merchant ships were no longer needed to the same extent to bring wheat and butter and meat from the colonies, but could be used for tanks and guns and Americans, the countryside was transformed, and the foundation was laid for the agricultural revolution of the later twentieth century. Whether or not this was true is almost irrelevant; it was perceived to be true by contemporaries, and that was what made farmers the heroes who deserved to be supported by the 1947 Agriculture Act. Backing the farmers at the end of the War was backing success. But was it?

In terms of overall output increase, it was a partial success, if the assumptions and calculations made in this paper are justifiable and correct; there is clearly room for argument. Output, in volume terms, with all the caveats implied in the calculation, did increase a bit: the average for 1943–5 was, in volume terms, about eight per cent higher than the average for 1935–9. The principal reason for this was that higher prices provoked increased outputs in exactly the way that supply theory predicts. In fact the total land area decreased a little, so land productivity increased a little more than overall output, but the other inputs – labour, capital and management – all increased, and by more than output. Thus the total factor productivity calculation, making the most likely assumptions, produces a negative residual. In other words, total factor productivity decreased, largely as a result of diminishing returns to inputs of labour and capital, and possibly management.

If this is the case, what was the result of all those technical changes that the War was supposed to have provoked? In fact, when examined in detail, they prove to have had little impact. Fertilizer use was restricted, varietal change, AI and agrochemicals had their biggest impact after the War, and animal disease control methods changed only a little. The most significant technical change was probably mechanization. There were no major yield improvements, and output increases were the result of the change from pasture to arable and the increased inputs of labour, capital to pay for the mechanization, and management. This last is perhaps the most difficult to identify and virtually impossible to quantify, but it would include pressure from the War Agricultural Executive Committees to increase input use, often, it seems, to the point where marginal cost exceeded marginal return.

Finally, it is not just a matter of convention to end with a plea for more research. There is still little readily available quantifiable evidence on the development of pesticides, veterinary medicines, AI, land reclamation – even mechanization. If the tone of this paper is excessively polemical – and it does indeed place greater emphasis on the evidence for stasis than change – it is perhaps because much detailed work still needs to be done before there is enough material for judicious balancing. At present, revisionism looks right, but it could still be challenged by new evidence and changed assumptions.

<sup>66</sup> P. Dewey, *British agriculture in the First World War* (1989), p. 239.

# Wartime rodent-control in England and Wales<sup>\*</sup>

by John Sheail

## *Abstract*

Within the wider context of endeavours to assess pest damage to crops, the chapter focuses on the contribution made by wartime research to more effective rodent-control, both immediately by way of statutory regulation and through such peacetime reconstruction measures as the Prevention of Damage by Pests Act of 1949. A conspicuous part was played by the leading animal ecologist, C.S. Elton, and his Bureau of Animal Population, both as to the technique and organization of rat and mouse control and more generally to concepts of the management of wildlife populations in the post-war period.

Agricultural policy in the War drew heavily on pre-war experience and, in so far as farmers wanted assurance of a financial return on their wartime investment, the rudiments of a post-war policy had also to be determined. Nor was policy any more discrete in terms of farming's place in the countryside. Agriculture might continue to occupy over three-quarters of the land space, but an even higher proportion of people lived and worked in towns and cities. Account had to be taken of an ever-widening demand, including that for outdoor recreation and the preservation of amenity and wildlife. Agricultural pest-control offers a further example of how the management of countryside and town was becoming more closely integrated.

Policies reflected both the institutional context and a lifetime of experience of those who populated or lobbied government. Memories of the alleged betrayal of farming after the Great War made it especially necessary for the Minister of Agriculture and Fisheries, R. S. Hudson, to guarantee, in November 1940, that 'the present system of fixed prices and an assured market will be maintained for the duration of hostilities and for at least one year thereafter,' as tangible recognition of 'the importance of maintaining after the War a healthy and well-balanced agriculture as an essential and permanent feature of national policy'. When challenged as to the need for an efficiency test, Hudson spoke of how 'the field-to-field survey of farms,' being carried out by the CWAECs, would enable them to apply 'their powers both firmly and with understanding.'<sup>1</sup> Hudson had recalled, in a Commons' debate a month earlier, how one of the most encouraging aspects had been the friendly reception given to the surveyors as 'the lessons of agricultural research and technical advice are being taken to individual farms throughout the country where up till now no agricultural organiser, let alone scientist, has ever set foot.'<sup>2</sup>

<sup>\*</sup> The guidance and assistance of the Official Papers Room, Cambridge University Library, are gratefully acknowledged.

<sup>1</sup> *PD Commons*, 367, 26 Nov. 1940, cols. 91–5.

<sup>2</sup> *PD Commons*, 365, 22 Oct. 1940, col. 952.

Where much has been written as to how the Agriculture Act of 1947 strove to make permanent such advances in agricultural productivity, this chapter focuses on the circumstances that led up to the post-war legislative initiative, the Prevention of Damage by Pests Act of July 1949. Its promotion afforded further opportunity for appraising the wartime advances in research and development which had, for the first time, challenged the legends of centuries as to rodent control.<sup>3</sup> Such findings were embodied in Statutory Regulations enacted under the Defence (General) Regulations of 1939 and continued under the Supplies and Services (Transitional Powers) Acts. The new Act replaced the earlier Rats and Mice (Destruction) Act of 1919, which was itself a legacy of the food conservation campaign of the Great War. In the words of a draft for the minister's speech, the Bill was directed at 'the points of the animal and insect kingdom which have committed unprovoked aggression'.<sup>4</sup> As with the powers taken against other pests, under Section 98 of the Agriculture Act, it was declaratory in trying to sustain the heightened wartime awareness of the damage caused, and incremental in extending the executive powers already to hand. But since rats and mice were creatures of town and country that threatened human health as well as material well-being, provision for their destruction required separate legislation.<sup>5</sup>

# I

Despite the estimated loss of one million tons of food annually to pest damage, a government spokesman recalled, in the debates on the Pests Bill of 1949, how, at the outbreak of war, there was neither adequate powers nor the necessary organization to prevent such wastage.<sup>6</sup> The occupier of premises, under the 1919 Act, had been required to take such steps 'as were necessary and reasonably practicable'. Whilst the local and port sanitary authorities were expected to ensure compliance, they could do nothing where an occupier demonstrated it was not 'reasonably practicable' to comply, say where re-infestation from other properties nullified any advances made. There had been virtually no systematic control in rural areas, the Ministry of Agriculture employing a single technical officer to cover all pest issues, with neither the authority nor staff to carry out actual destruction. The sum total of his contribution to rat control was to publicize the annual Rat Week in November.<sup>7</sup>

As with the Great War, the Orders issued under the Defence Regulations strove to by-pass decades of controversy as to the scope for pest control, how it was carried out, and any supervisory role accorded local and central government. The Rabbits Order of October 1939 (no. 1493) enabled the CWAECs to authorize entry to properties where rabbits were injuring crops or trees, or wasting pasture. The Order was replaced by another in May 1940 (no. 431), empowering the committees to require those persons with a right to destroy rabbits to discharge such responsibility, the CWAECs having default powers to do so.<sup>8</sup> Similar powers were granted the

<sup>3</sup> Ministry of Agriculture, Fisheries and Food, *Infestation control. A service to agriculture and food storage* (1958), p. 6.

<sup>4</sup> National Archives of Scotland, AF 74, 12/1.

<sup>5</sup> TNA, MAF 44/82, and 130/2.

<sup>6</sup> *PD Lords*, 159, 18 Nov. 1948, cols. 476–96.

<sup>7</sup> P. Crowcroft, *Elton's ecologists. A history of the Bureau of Animal Population* (1991), p. 94.

<sup>8</sup> TNA, MAF 44/20.



following month for rooks (no. 585) and rats (no. 866), and in June for wood pigeons (no. 967), the methods employed for the latter extending to the destruction of nests and eggs.

It was one thing to take such powers, but another to demonstrate that they brought higher productivity. Although confident that large numbers were being killed, a Ministry official wrote, in March 1941, of how the effectiveness of pest control must ultimately be measured by the protection afforded to crops and food in store. Where the manufacturers of the poison gas, Cymag, claimed rabbits cost farming £70 million a year, the official believed it was closer to £20 million, with rats contributing a further £25 million to a total cost of £50 million for all pest damage. An obvious course was to obtain an independent assessment from the Ministry's Crop Reporters. The 300 reporters each covered some 40 parishes. Their 'general impressions' were graded into three categories, those for 1941 suggesting there had been 'a substantial improvement' in rabbit damage in 46 per cent of reports, 23 per cent in the case of rats, 12 per cent rooks and 10 per cent wood pigeons, with 41 per cent, 53 per cent, 43 per cent and 44 per cent respectively in the intermediate category of 'measurable improvement'. There was 'insignificant improvement' in 13 per cent of the reports for rabbits, 24 per cent rats, 45 per cent rooks and 40 per cent pigeons. Whilst there was sacrifice of the food value of those rabbits gassed underground, agricultural damage was estimated to have been reduced by 20 per cent. The equivalent of at least one million tons of food and feeding stuffs had been saved. The fact that this corresponded almost exactly with the estimated increase in cereal output caused the Permanent Secretary (the most senior official in the Ministry) to write anxiously how, from 'the psychological point of view' it would be unfortunate if publicity caused the public to attribute the increase in output entirely to pest destruction, rather than the Government's agricultural policy as a whole.<sup>9</sup>

There was no greater readiness to publicize the returns of succeeding years. Whilst the proportion of reports showing a substantial improvement in rabbit damage rose to 69 per cent, 47 per cent for rats, and 26 per cent other pests in the 1942 harvest, the Ministry's Statistical Branch emphasized the large margins of error. Those of 1943 showed, as anticipated, 'a slight setback'. As one crop reporter described the rabbit position, 'Destruction was well organized but owing to the mild winter they bred to an overwhelming extent and have actually increased from this time last year, although thousands have been gassed or otherwise destroyed'. The fact that only 7 per cent of reporters found insignificant levels of control was taken as 'some indication that the campaign is practically universal throughout the country'. On the premise that the surveys had served their purpose, no further surveys were attempted.

## II

War gave added urgency to what trade interests had already recognized to be 'the seriousness of the losses caused by infestation of grain by insect pests'. The Ministry of Agriculture had, at the trade's prompting, referred the question to the Department of Scientific and Industrial Research (DSIR). Following a representative conference of March 1938, the DSIR offered to commission a study of the scale of the problem, subject to the necessary sum of £1200 being raised. With the

<sup>9</sup> TNA, MAF 44/33.



monies raised from such interests as maltsters, flour millers, corn merchants, railway companies, wharfingers and port authorities, the survey proceeded under the supervision of Professor J.W. Munro of the Imperial College of Science and Technology.<sup>10</sup> Its recommendation as to the need for 'continuous scientific surveys of indefinite duration' was reinforced by the Food (Defence Plans) Department (that became the Ministry of Food). A Pest Infestation Laboratory was established by the DSIR in 1940 to work chiefly on invertebrate and mite infestation.<sup>11</sup>

The investigation had also emphasized both the scale of rodent damage and the inadequacy of its control. Despite some half-million pounds being spent annually on rat and mouse control, mostly in towns, scarcely any research had been done of their biology and ecology. Where a Select Committee of the House of Lords had published a 270,000-word report on rabbit damage in 1937, less than a hundred words dealt with the need for research.<sup>12</sup> The leading animal ecologist, C.S. Elton, was refused funds by five agricultural bodies (both private and national) for research on the wild rabbit, on the premise that any findings on so common an animal would be of interest only to zoologists.<sup>13</sup>

The position as to rodent control began to change following the announcement, in the spring of 1939, that university scientists would be exempt from military service and, more specifically, Elton's proposal to the Agricultural Research Council (ARC) that his Bureau of Animal Population should concentrate on the immediate need to protect food from the brown rat (*Rattus norvegicus*), house mouse (*Mus musculus*) and rabbit.<sup>14</sup> The Bureau had, since its foundation in 1932 as part of Oxford University, obtained unique field experience in both fundamental and more applied studies of wild mammals and game birds. Using the immense amount of field data obtained specifically for the short-tailed field vole (*Microtus agrestis*), P.H. (George) Leslie, a self-taught biomathematician, had pioneered the development of mathematical models for estimating population parameters.<sup>15</sup> The agreement of the ARC, in August 1939, to finance an advisory and research service enabled the Bureau to expand to 17 individuals. Over a hundred research reports were submitted to the ARC, as each project approached general application of its findings. Under Elton's low key, but powerful, leadership, it was shown that spasmodic efforts to kill pests when they reached high density were both wasteful and the results misleading. The success of any campaign could not be measured simply by the body count. There had also to be close awareness of how much the feeding and, therefore, breeding conditions of any survivors might improve. There would be immigration from neighbouring properties. Rodent control had to be a continuing process.

The immediate priority was to make the fullest use of 'simple existing methods'. The Bureau's first wartime bulletin dealt with rabbit control. The author, Douglas Middleton, acknowledged the part played by expert tuition and practice, but emphasized how control must ultimately depend upon a determination to exterminate the entire population over as large an area as

<sup>10</sup> PP, 1938–39, XV, Department of Scientific and Industrial Research (DSIR), *Report for the year 1937–38* (Cmd 5927), pp. 13–5.

<sup>11</sup> PP, 1948–49, XXI, DSIR, *Report for the year 1947–48* (Cmd 7761), pp. 35–6.

<sup>12</sup> J. Sheail, 'The management of an animal population: changing attitudes towards the wild rabbit in Britain,'

*J. Environmental Management* 33 (1991), pp. 189–203.

<sup>13</sup> Crowcroft, *Elton's ecologists*, pp. 204–5.

<sup>14</sup> C.S. Elton, *Voles, mice and lemmings* (1942), pp. 184–208.

<sup>15</sup> R. Southwood and J.R. Clarke, 'Charles Sutherland Elton', *Biographical memoirs of Fellows of the Royal Society* 45 (1999), pp. 130–46.

possible. In those instances where a catcher's income depended simply on the numbers killed, the law of diminishing returns meant that there was no incentive to continue once most of the population had been removed. A carefully-phased trapping, ferreting, snaring and netting attack in autumn and early winter would remove the majority, but the most crucial stage was to eliminate the remainder by the cyanide spooning-method of gassing them below ground. It proved so effective that the Bureau abandoned further research on the rabbit, so as to concentrate on rats and mice.<sup>16</sup>

Although the ARC contract had initially limited the Bureau to rural rodent-control, it became immediately apparent that any comprehensive understanding, let alone control, of rats and mice must encompass urban and sea-port areas. As Elton wrote later, it called for operational research of the kind developed in other sectors of the war effort, where the findings of academic inquiry had to be tested and driven home at a practical scale. Scientists must play a large part in determining the line of executive action. Elton especially acknowledged the ARC's willingness and ability to act as interpreter in conveying to government departments the scientific advances, both as to technical method and effective management. A properly-constituted rural organization for rat and mouse control was constituted in 1943, operated by the CWAECs and a greatly-increased staff of Ministry technical advisers. An article published in *Agriculture*, the Ministry's journal, urged farmers to enter into contracts with the committees, so as to clear whole groups of farms and thereby minimize re-infestation, the individual farmer being charged only the bare cost of labour and materials.<sup>17</sup> For its part, the Ministry of Food established a Directorate of Infestation Control, both to enforce the Infestation Order it had obtained in December 1941 (No. 1993) and to provide more direct protection of government-owned stocks of food and other infestible commodities. Given the obvious need for such control to extend to neighbouring properties, a further Infestation Order of May 1943 (No. 680) empowered the Ministry to impose duties on local authorities, thereby providing the organization and staff training required for urban areas.

### III

As with invertebrate and mite control, more rigorous control of rodent populations required knowledge of the scale of the problem. A postal survey was undertaken by the Bureau of the 60 administrative counties of England and Wales in November 1939, together with personal surveys of groups of farms near Oxford. As the first quantitative insight ever obtained of rat and mouse infestation, it highlighted the prolific numbers of house mice in corn ricks, and how rats continued to breed in them throughout winter, when other habitats showed a considerable drop in productivity. Since the farmer usually did nothing, except perhaps to kill them for amusement at threshing time, a proportion survived to re-infest the following year's ricks. The thousands of bodies amassed by the Bureau in the first three years of the War, in the course of 'census baiting' of individual rick yards, enabled George Leslie to extend his studies in population dynamics,

<sup>16</sup> A.D.Middleton, *The control and extermination of wild rabbits* (1940); Crowcroft, *Elton's ecologists*, pp.23-6.

<sup>17</sup> F.H.Lancum, 'Wild animals and agriculture - the rat', *Agriculture* 52 (1945), pp.228-31.

thereby enabling estimates to be made of the quantities of grain actually eaten. The fact that the equivalent of a shipload of human food was destroyed each month turned what Elton called 'a casual country practice' into a legal obligation.<sup>18</sup> The Rats Order (Number 2) of August 1940 (no. 1557) required farmers and threshing contractors to erect a fence sufficient to enclose and destroy the entire population as the threshing and dismantling of each corn rick proceeded.

The overriding need was for a universal, simple and standard method of control. Poisoning was so obviously better than any other form of control that the entire weight of rat-control research was soon concentrated on poisons and baits, baiting technique, and animal behaviour. Despite the considerable sales of poisons, little was known about their properties. The Bureau began with the time-honoured rat poison, Red Squill, an extract of a Mediterranean bulb, *Urginea maritime*. Although claimed to be fatal only to rats and mice, an exhaustive search of the literature and a series of trials found its reputation to be based largely on ignorance and the wishful thinking of salesmen. It was, as Crowcroft wrote, unreliable and generally toxic.<sup>19</sup> Of the inorganic compounds, such as arsenious oxide or naturally-occurring alkaloids, none was found to be precisely formulated or applied in consistent fashion. After a rather chaotic start, it became the practice from 1943 onwards for the Ministry of Supply's Raw Materials Department to consult the Bureau as to what Elton called 'a triangle of considerations', namely their comparative safety in use, availability of supply, and efficacy. The Bureau undertook sample tests on white mice and a short series of investigations on wild rats, receiving help from the Laboratory of the Government Chemist in analysing the different chemicals considered.

No new poisons were developed for the object was to improve the efficacy of existing ones. The outcome was unexpected. The first year was spent experimenting with commonplace forms of 'direct poisoning', namely the laying of 'acute', single-dosed baits, without any preliminary attempt to condition the rats to eating it. The object was to develop a semi-permanent poison bait that, protected from all but rats and mice, would reduce the labour of more frequent bait-laying. The trials not only failed, but they highlighted how small a proportion of the population was actually destroyed by direct poisoning. After much frustration, the Bureau realized that rats characteristically ignored, or ate very small amounts of, a fresh bait. So strong was their 'new object reaction' that it took several nights before they ate the bait confidently. The animals might, in the meantime, become sub-lethally poisoned, the unpleasant experience causing them thereafter to avoid the bait altogether, even when not containing the poison. The major breakthrough was to discover how, by conditioning the brown rat to eat increasing amounts of plain bait, the eventual poisoned bait would consistently kill much higher numbers, even 90 per cent of the population.

From such empirical research and what Elton called 'probing the deeper causes', there emerged the rudiments of a national campaign.<sup>20</sup> Pre-baiting trials were extended over 11,000 acres of downland, the Port of London Authority, lengths of sewer in Oxford and London, and Oxford market. As Middleton remarked, the rural environment contained a much more diverse range of rodent habitat than the urban, including hedgerow banks and rick yards, remote from

<sup>18</sup> C. S. Elton, 'Research on rodent control by the Bureau of Animal Population', in D. Chitty and H. N. Southern (eds), *Control of rats and mice* (3 vols, 1954), I, pp. 1-24.

<sup>19</sup> Crowcroft, *Elton's ecologists*.

<sup>20</sup> Elton, 'Research', p. 12.



FIGURE 4.1. Womens Land Army members were trained to use ferrets for chasing rats from grain stacks such as this, the rats then being shot or killed by dogs.

Source: MERL, *Farmers Weekly Picture Library*, R/34 26 Feb. 1943.

human habitation, as well as farmsteads, village shops and knackers' yards, together with an increasing number of creameries and cheese factories, sugar-beet refineries, bacon factories and canneries.<sup>21</sup> Some 550 fieldwork-sites were chosen, where the colonies were sufficiently large, isolated yet accessible, and where poisons had not previously been used. Feeding behaviour, rhythm and conditioning to different bait were studied, using infra-red photography and marked individuals.<sup>22</sup> Whilst rats had been credited with great cunning, recognizing and avoiding any harmful foods, there was increasing evidence, from the nightly vigils inside an old piggery on Giles' Farm, just outside Oxford, that they simply avoided anything unfamiliar, even new sources, or re-positioned supplies, of food. Where pest-control firms used the same materials for any secondary treatment, the Bureau's findings strongly suggested that, to avoid a sub-lethal effect and therefore 'shyness' among survivors, both the bait and poison should be changed. Numbers were almost invariably reduced to the point of extinction.<sup>23</sup>

<sup>21</sup> A.D. Middleton, 'Rural rat control', in Chitty and Southern (eds), *Control*, II, pp. 414–6.

<sup>22</sup> H.N. Southern, J.S. Watson and D. Chitty, 'Watching

nocturnal animals by infra-red photography, *J. Animal Ecology* 15 (1946), pp. 198–201.

<sup>23</sup> Elton, 'Research'.





FIGURE 4.2. An infestation of rats in the Foxton District of Leicestershire dealt with by poisoning. At least 360 rats were destroyed overnight on this one farm. The County Pests Officer stands on the far right, with one of the members of the Women's Land Army gang who dealt with the rats.

Source: MERL, *Farmers Weekly* Picture Library, R/34 (n.d.).

Whilst most attention was given to the rat, studies were made between November 1941 and February 1942 of mice infestation in the buffer depots of the Ministry of Food. The stacks of grain-filled hessian sacks constituted 'a mouse paradise,' often collapsing where so much grain had bled from the sacks. Even where diverted to animal food, the re-bagged grain could be hazardous if inadvertently mixed with poison bait from control attempts. The standard pre-baiting and poisoning methods developed for the brown rat usually failed. The tendency of mice to sample many different sources, but eat only a little from any one, meant sub-lethal levels were often ingested. One of the most significant discoveries made by H.N. (Mick) Southern, 'the Bureau's main mouse man,' was that the species had an extremely small home-range. A very large number of baiting points were required to ensure that some were within reach of every mouse. To miss even one pregnant mouse meant rapid re-infestation.<sup>24</sup>

A priority was to convey such findings to the technical staff charged with implementing the Statutory Regulations. The Ministry of Agriculture employed, by the end of the War, 140 scientific and executive officers, 65 regional scientific inspectors, and 100 assistant rodent officers and inspectors. Two-day courses were held in Oxford between 1943 and 1945, attended

<sup>24</sup> H.N. Southern, 'House mice', in Chitty and Southern (eds), *Control*, III, pp. 8–31.

by nearly all the pest officers of the CWAECs. An article by a member of the Northumberland WAEC was published in *Agriculture*, in August 1944, emphasizing how farms had become 'virtually food factories'. Only relentless perseverance could outstrip the rodents' prolific breeding-rates. The article relayed how the best results came from using unpoisoned pre-baits, say on the first and third days, with poison bait on the fifth. An admirable base was National wheat flour, preferably with up to 10 per cent castor sugar.<sup>25</sup> Although the Ministry of Food issued, after much delay, a manual drafted by Elton,<sup>26</sup> the end of hostilities meant there was no longer fear of telling 'the enemy how possibly to improve his own pest control'. A definitive statement was published in 1946 as to how 'the systematic destruction of rodents' might be achieved over the entire extent of infestation, irrespective of differences of ownership in the ground or buildings. Generous acknowledgement was made to Elton and his Bureau.<sup>27</sup> The post-war priority of the Bureau was to publish a three-volume monograph on its wartime investigations. An anonymous grant to the Clarendon Press by the shipping magnate, Sir John Ellerman, made that possible.<sup>28</sup>

#### IV

Rodent-control research and development had met an obvious wartime need, and showed what could be achieved on a longer-term basis. The pest control functions of the Ministry of Food were transferred to the Ministry of Agriculture by the Transfer of Functions (Infestation Control) Order of 1947, and incorporated within an Infestation Control Division created for the purpose.

As well as the responsibilities conferred by the Agriculture Act on the CAECs for protecting crops, pasture and stored foodstuffs from pest damage, a priority for the new Infestation Control Division was drafting the Prevention of Pests Bill. The primary duty was placed not on occupiers, as under the 1919 Act, but on the local public- and port- health authorities to prevent and remedy infestations of rats and mice throughout their administrative districts, under the general supervision of the Minister of Agriculture. Exchequer grant aid of up to half the costs would be given. Among the wartime regulations given permanent effect was that as to direct killing at threshing time. An owner, as well as occupier, could otherwise be required to undertake specified treatments, the relevant health authority having default powers to carry out and recoup the costs of such work as might arise from non-compliance. Farmers were urged, both voluntarily and when so instructed, to continue making use of the county committees in obtaining, on a repayment basis, 'a clean sweep' of groups of farms, followed up by visits throughout the year.<sup>29</sup>

Elton, whose Bureau had returned to more fundamental research in August 1947, was one

<sup>25</sup> A. E. Dawson, 'Rat destruction', *Agriculture* 51 (1944), pp. 231–4.

<sup>26</sup> C. S. Elton, *Extermination of rats and mice* (1944).

<sup>27</sup> Ministry of Food, *Infestation control: rats and mice* (1946).

<sup>28</sup> Chitty and Southern (eds), *Control*. Sir John Reeves Ellerman, second baronet (1909–1973), shipowner and

naturalist, was frequently described as Britain's richest magnate. He became an expert on the rodent family. He wrote a three-volume monograph, *Families and genera of living rodents*, published by the British Museum (Natural History) in 1940–49. ODNB, 'Ellerman, Sir John Reeves'.

<sup>29</sup> *PD Commons*, 461, 23 Feb. 1949, cols. 1943–50.

of a handful of ecologists who pressed, through a range of scientific and voluntary bodies, for a much broader approach to managing wildlife populations. He had been greatly impressed by the Bureau's wartime experience of the Agricultural Research Council. Such status and flexibility would not only be extended further by the establishment of an ecological research council, but that body would have an obvious authority in arbitrating between the different values set on wild animal and plant populations, both economic and cultural. An outstanding opportunity for pressing such advocacy arose from detailed consideration of a report on *National Parks in England and Wales*, written by John Dower and published as a White Paper in May 1945.<sup>30</sup> Friendship with Dower had ensured reference to nature conservation. Elton was among the majority of ecologists appointed to a Wild Life Conservation Special Committee which, along with a National Parks Committee, investigated Dower's proposals further. The Special Committee's report of July 1947 was an outstanding opportunity to demonstrate how 'a constructive scientific policy' was the key to making 'the best use of the nation's heritage'. It drew heavily on the wartime advocacy of the Society for the Promotion of Nature Reserves and Royal Society for the Protection of Birds, most obviously in the value it placed on a series of national nature reserves. A memorandum from the British Ecological Society had most cogently illustrated how none of this would be to avail unless managed scientifically. Where 'unthinking sentimentalists' assumed everything could be left to Nature, nature reserves required the same fine-scale husbandry as any farm-crop system.<sup>31</sup> Crucially to the debate, the Special Committee's conclusions were reinforced by the Cabinet's Scientific Advisory Committee, following a submission from the Royal Society of London as to the requirement for greatly-improved facilities for research and teaching in field biology.<sup>32</sup>

Such advocacy enabled the Deputy Prime Minister, Herbert Morrison, to claim (as Lord President of the Council) nature conservation as part of his consequent responsibility for science. As he wrote, in a paper to his own Lord President's (Cabinet) Committee, in April 1948, the Government was:

constantly taking action liable permanently to affect the fauna, flora and even the geography of the country without having at its disposal any channel of authoritative scientific advice about the probable results, such as is available in all other fields of natural science.<sup>33</sup>

The decision was taken to appoint a new body, the Nature Conservancy, that was a research council in all but name. It was to provide expert advice on nature conservation, designate and manage a series of national nature reserves, and to undertake such research as was relevant to those functions, over and above the more fundamental, long-term research otherwise expected of a research council.<sup>34</sup>

Yet whilst post-war Britain might claim to be ahead of the world in pest-infestation control and wildlife management generally, far from there being any over-arching policy, the priority

<sup>30</sup> Ministry of Town and Country Planning, *National Parks in England and Wales* (Cmd 6628, 1945).

<sup>31</sup> Ministry of Town and Country Planning, *Conservation of Nature in England and Wales* (Cmd 7122, 1947).

<sup>32</sup> TNA, HLG 93/51.

<sup>33</sup> TNA, CAB 132/9 and 10.

<sup>34</sup> J. Sheail, *Nature conservation in Britain: the formative years* (1998), pp. 24–34.



for both bodies was to shake off the stigma among users of the countryside as to their seemingly *dirigiste* origins.

## V

The Army Bureau of Current Affairs issued, in September 1944, a booklet outlining how demobilization was likely to begin. In the sense that the War had been 'One War' by encompassing the factory and coal pit, as well as battle zones, so it would outlast hostilities in continuing to require planning for the time when khaki must be exchanged for dungaree, as men and materials were released for the priority tasks of reconstruction, that must include the rebuilding of cities and restoration of the export trade.<sup>35</sup>

There was no obvious end to that 'One War', nor had there been a single beginning. Agriculture may have been better prepared than for the Great War, but it was not until the same mid-point in hostilities that any semblance of an effective programme to cope with pest damage began to emerge. It had taken that time for applied biologists, starting as conflict broke out, to measure the scale of the challenge, identify the means of addressing it, and bring together the organization required to achieve it. Where say the rebuilding of the blitzed cities had to confront the politically-charged question of property ownership in districts already blighted by obsolescence, so those seeking to raise agricultural productivity continued to be confronted by what Cooper, writing in an inter-war marketing context, described as the fragmentation of 'a myriad of individual procedures', compounded by 'the persistence of intense feelings of particularism and individualism at the local level'.<sup>36</sup> Nowhere was that better illustrated than in minimizing the wastage caused by rodent infestation.

Writing in the context of the welfare state, Klausen found wartime mobilization and economic shortages had instilled in belligerent and neutral nations alike 'a new consciousness' of the possibilities for government.<sup>37</sup> In the belief that war would not make the world safe for democracy or anything else, a Ministry of Agriculture memorandum of March 1940 anticipated many years of instability, high taxation, and close control by government of both internal economic life and international trade.<sup>38</sup> Yet there was a more positive side. Whatever the difficulties inherent in central state planning and devolution to local authorities, Elton wrote of how it had only been through a State-guided organization that a fresh start had been possible for rodent control, with a rigorous basis and uniformity of technique.<sup>39</sup> In moving the Second Reading of the Prevention of Damage by Pests Bill, in February 1949, the Parliamentary Secretary, George Brown, spoke of the part played by Britain in founding the United Nations' Food and Agriculture Organization. By intensifying the attention given to such questions as pest control, domestic wastage would be reduced and a stronger moral lead given abroad.<sup>40</sup>

Yet if there was no conscious break in the progression from war to peace, there was also increasing challenge to the assumptions upon which the scientific inputs to post-war agricultural

<sup>35</sup> J. Pigott, *Preparing for demobilisation* (1944).

<sup>36</sup> A. F. Cooper, *British agricultural policy, 1912-36* (1989), p. 78.

<sup>37</sup> J. Klausen, *War and welfare* (1998), pp. 1-24.

<sup>38</sup> TNA, MAF 53/162.

<sup>39</sup> Elton, 'Research'.

<sup>40</sup> *PD Commons*, 461, 23 Feb. 1949, cols. 1903-13.

productivity had been based. As Klausen further observed, those planning post-war reconstruction had failed to anticipate just how quickly coercive control might give way to more self-regulatory concepts of planning. Where those promoting the Pests Bill might press, on the one hand, for control on a far wider scale than the individual farm or urban premises,<sup>41</sup> there was also assertion that the task should be left to farmers who 'have full knowledge of pests and are themselves interested parties in the job of destroying them'. It would be far better to return to 'the old fashioned system whereby the individual kept down his own rats, and if there were too many for him, employed an independent contractor'.<sup>42</sup> Such sentiment suggested that, behind the rhetoric of the bargain struck between government and industry, which offered guarantees of economic stability in return for higher productivity, little had been absorbed as to the detail by which such technical and organizational aspiration might be achieved.

<sup>41</sup> Ibid., 467, 15 July 1949, cols. 837–40.

<sup>42</sup> *PD Commons*, Standing Committees (23 April–5 May

1949), III, 410; *PD Commons*, 461, 23 Feb. 1949, cols.

1938–43.

## The organic challenge

by Philip Conford

### *Abstract*

Experiments in organic farming were severely restricted between 1939 and 1945, national agricultural policy relying on increased mechanization and fertilizer use. Concerned about British agriculture's post-war direction, the organic movement responded with a vigorous campaign to promote its alternative vision, the war years seeing the publication of several major texts in the organic canon, as well as articles and correspondence in the national and specialist press. The organicists succeeded in worrying the vested interests of fertilizer manufacturers, but their aims were considerably more far-reaching: they wanted post-war Britain to re-establish agriculture at the centre of its economy and culture. In this they were to be largely unsuccessful.

While a study of organic *farming* during the Second World War would necessarily be brief, there is a good deal to be said about the organic *movement* during that period. The paradox is only apparent: wartime emphasis on using artificial fertilizers, and the drive towards increasingly industrialized methods of cultivation provoked a vigorous response from those who believed that humus-rich soil was the key to abundant production of healthy crops. Influenced by the work of the agricultural botanist Sir Albert Howard, and of Ehrenfried Pfeiffer, who had developed the 'bio-dynamic' methods first outlined by Rudolf Steiner, the emerging school of organic husbandry believed that the soil was not an inert material which could be indefinitely mined, its fertility boosted by the application of chemical fertilizers. On the contrary, it was a living, complex, biological entity whose continued productiveness depended on a farmer's observance of the 'rule of return' of biological wastes, as practised traditionally on European mixed farms and by the peasant farmers of the East. The purpose of agricultural science, the organicists believed, was to understand natural processes and find ways of accelerating them and enhancing their effectiveness; not to seek to replace them with the methods of the factory.

Organic farming is sometimes regarded as a negative approach to cultivation, in that it seeks to avoid the use of chemical fertilizers, pesticides and the other paraphernalia of mechanized agriculture, but it is in fact based on belief in a virtuous circle of benefits. Waste products, scientifically composted, are returned to the soil and increase its humus content; the humus lends vitality to the soil, improves its structure and confers a variety of other benefits; as a result, healthier crops are produced, which in turn benefit the health of the animals and humans who consume them. Agriculture was therefore, in the organicists' view, potentially the primary health service. They regarded with alarm the rapidly-growing tendency of government policy to industrialization, with its emphasis on chemicals, machinery, larger farming units and efficiency judged by output per worker.

As we shall see, the organicists gained considerable publicity for their views and were regarded as posing a threat to the commercial vested interests who benefited from the sale of agricultural products. Although vocal, they were but a tiny minority and their ideas had no impact on government policy, which identified the application of artificial fertilizers with good husbandry. The organic movement sought a post-war policy which could put agriculture at the heart of the nation's economy, increase the rural population, enhance fertility through organic methods of soil improvement, and recognize agriculture's role as the most effective form of preventative medicine.<sup>1</sup> Their fear – justified in the event – was that post-war policy would confirm the wartime approach. The organic writers believed that Britain faced a vital choice when the War ended, so the less they were able to practise their methods, the more they were determined to preach. The period from 1940 to 1945 was therefore centrally important to the development of an organic philosophy framed as a counter-attack on vested interests and bureaucratic compulsion. During these years some of the chief texts in the organic canon were published, the humus-vs.-artificial debate featured in both the specialist and the national press, and, as the War came to an end, the first steps were being taken to establish the Soil Association.

# I

The various strands forming the organic movement already existed when Britain declared war on Germany. Sir Albert Howard had returned from India in 1931 and had advocated his Indore Process of scientific composting at various venues, including the Royal Society of Arts (twice) and the Farmers' Club.<sup>2</sup> By 1939 it was being successfully used by the Fenland market gardener Roy Wilson, the Surrey and Suffolk landowner Sir Bernard Greenwell, and the Wiltshire race-horse breeder Friend Sykes. The British Association visited Wilson's estate in September 1937, and Greenwell addressed the Farmers' Club in February 1939.<sup>3</sup>

Despite Howard's scepticism about bio-dynamic methods, Wilson used them along with the Indore Process. A bio-dynamic presence had existed in Britain – at Clent, in Worcestershire – since the late 1920s, and Steiner's ideas, as mediated by Pfeiffer, were taken seriously by several leading organicists, most notably the farmer and journalist Laurence Easterbrook. In July 1939 Lord Northbourne organized a summer school on his estate at Betteshanger in Kent, whose

<sup>1</sup> On Howard, see Sir Albert Howard, *An agricultural testament* (1940) and Louise E. Howard, *Sir Albert Howard in India* (1953); on Steiner, see Rudolf Steiner, *Spiritual foundations for the renewal of agriculture* (1993) and J. Hemleben, *Rudolf Steiner: a documentary biography* (1975); on Pfeiffer, see the Earl of Portsmouth, *A knot of roots* (1965), pp. 83–85, 88–89, Ehrenfried Pfeiffer, *Soil fertility, renewal and preservation* (1947) and id., *The earth's face* (1947). On the coalescence of the organic movement during the 1930s and 1940s, see Philip Conford, *The origins of the organic movement* (2001).

<sup>2</sup> The Indore Process was a method of scientific composting of biological wastes developed in the late 1920s by Howard and his first wife Gabrielle at their research

centre, the Institute of Plant Industry, at Indore, central India. Suitably adapted to different climatic conditions, it proved successful in a variety of countries across the world.

<sup>3</sup> For Howard's talks at the Royal Society of Arts, see *JRSA* 81 (1933), pp. 84–121 and 83 (1935), pp. 25–59. For his talk at the Farmers' Club, see Sir Albert Howard, 'The restoration and maintenance of fertility', *J. Farmers Club* (Feb. 1937), pp. 1–18. On Wilson, see George Godwin, *The land our larder* (1939). On Sykes, see Friend Sykes, *Humus and the farmer* (1946). For Greenwell's talk at the Farmers' Club, see Sir Bernard Greenwell, 'Soil fertility: the farm's capital', *J. Farmers Club* (Feb. 1939), pp. 1–17.

purpose was to enable various organic farmers and sympathizers to learn from Pfeiffer himself. One of the evening lecturers was Dr. George Scott Williamson of the Pioneer Health Centre, and the week was arranged in close consultation with Gerard Wallop, Viscount Lymington (and, from 1943, Earl of Portsmouth).<sup>4</sup>

Wallop played a major role in the coalescence of the organic movement during the late 1930s, and his book *Famine in England* (1938) helped accelerate the process. As a further blow to what I have called elsewhere 'The Myth of Neglect', we can note that it was reviewed in most national and major provincial newspapers, and that the *Dairy Farmer* devoted three full pages to it. Lady Eve Balfour was so inspired by it that she was drawn to Howard's ideas and began to conceive an experiment to test his methods against those using chemical fertilizers. This became known as the Haughley Experiment, after the Suffolk village where she farmed; it was already being planned when the War started, although it was unable to get under way for several years.<sup>5</sup>

In July 1938 Wallop organized a conference on his Hampshire estate on the subject of 'Agriculture and Human Health', whose guest-list demonstrates that many leading organicists were already in contact with each other. The guests included Howard; Dr. G. T. Wrench, whose book on diet, *The wheel of health*, was published that year; the agronomist R. G. Stapledon; Dorset landowner Rolf Gardiner; Lord Northbourne; and the nutritionist Sir Robert McCarrison.<sup>6</sup> The organic movement has always argued that health – whether of plant, animal, or human being – depends on a fertile, humus-rich soil, and in March 1939 McCarrison and Howard launched a document called the *Medical Testament*. This was the brainchild of Cheshire GP Lionel Picton, who believed that attention to diet and the way food was grown would help promote health. In south London the founders of the Pioneer Health Centre, Scott Williamson and his partner Innes Pearse, were reaching a similar conclusion, but their work was interrupted during the War, when the Centre was used as a factory. One other figure should be mentioned: Edgar J. Saxon, an influential personality in the world of alternative medicine and editor of the journal *Health and Life*, had been advocating an organic philosophy for many years when the War began.<sup>7</sup>

The organic school was also concerned about the health of British society from an holistic perspective, believing that it was being de-stabilized by urbanization. The Rural Reconstruction Association, active throughout the 1930s, was a close ally of the organic cause, while figures like

<sup>4</sup> On bio-dynamic farming in Britain, see Conford, *Origins*, pp. 65–80. Bio-dynamic cultivation has been described as 'organic plus'. The 'plus' consists of refinements of organic methods based on an esoteric philosophy which sees correspondences between the earth and cosmic, planetary forces. It involves the preparation of various essences which are added to compost and manure heaps to lend them extra vitality. Several of the organic pioneers experimented with bio-dynamic methods, which remain a presence in the organic movement today, though Howard dismissed Steiner's theories. On the Northbourne conference, see the archive of the 9th Earl of Portsmouth in the Hampshire Record Office (hereafter HRO), file 15M84/F209. Gerard Vernon

Wallop, Viscount Lymington, became the 9th Earl of Portsmouth during 1943. He will be referred to in this essay by his family name.

<sup>5</sup> *Famine in England* was published by Witherby in 1938; reviews can be found in HRO, 15M84/F149. On the Haughley Experiment, see E. B. Balfour, *The living soil and the Haughley experiment* (1975).

<sup>6</sup> HRO, 15M84/F204.

<sup>7</sup> For the *Medical Testament*, see Picton, *Thoughts on feeding* (1946), pp. 22–30. On the Pioneer Health Centre, see Innes H. Pearse and Lucy H. Crocker, *The Peckham experiment* (1943); John Comerford, *Health the unknown* (1947); and Alison Stallibrass, *Being me and also us* (1989). On Saxon, see Conford, *Origins*, pp. 141–44.

Gardiner and Wallop sought to regenerate rural life on their estates. Agriculture's importance to national life having declined, the organic movement believed that this state of affairs could be rectified only through a thoroughgoing reform of the financial system and an awareness that natural resources and human skills, rather than purely monetary considerations, are the true forms of wealth. For this reason, several prominent organicists were members of the Economic Reform Club and Institute, which in February 1939 held a dinner on the theme of 'Health and Agriculture', with the nutritionist Sir John Boyd Orr as one of the speakers.<sup>8</sup>

Finally, in this survey of the organic position at the outbreak of war, we can note a distinct organic presence in the journals the *New English Weekly*, *New Pioneer*, *Purpose* and *Christendom*; in Richard St. Barbe Baker's Men of the Trees movement, and at Faber and Faber, where the pro-organic Richard de la Mare was editor of the agriculture list. In the early summer of 1939 Faber published *The rape of the earth*, a classic survey of erosion which underlined in stark terms the necessity of caring for the soil.<sup>9</sup> For the organic school the message could hardly have been clearer, but from 1940 onwards British policymakers had, of necessity, to demand of the soil rapidly-increased productivity and they had already decided that the application of more artificials was the way to achieve it.

## II

In a letter to *The Times* of 5 September 1939, Sir Albert Howard placed his services and experience at the disposal of the Minister of Agriculture, Sir Reginald Dorman-Smith. The offer had no discernible effect on the way policy developed: the powerful War Agricultural Executive Committees replaced the traditional values of husbandry with a drive for short-term economic advantage. Ronald Duncan, a poet who farmed organically in North Devon, complained in December 1941 that state powers had over-ridden the old leases requiring tenants to put dung on fields and forbidding them from selling straw off the farm. In Duncan's view, the new officials had no regard for the future, having been brainwashed into thinking that artificials would enable cereal crops to be grown in succession without the application of farmyard manure. The National Farm Survey questionnaire's section on use of fertilizers clearly equated good husbandry with the use of artificials. Friend Sykes recorded his view that tenant farmers were powerless to do anything about the robbery of humus, since the CWAECs compelled them to crop according to official instructions and use artificials. While accepting that things could not have been otherwise, he felt that farmers should have been compelled to experiment in alternative methods of manuring. In Norfolk, Henry Williamson noted that the chemical sack was replacing the dung-cart, and that farmers who had been sceptical about industrial methods were now being forced to use them. Jorian Jenks, who was to become the Soil Association's first editorial secretary, did not object to artificials as a supplement to farmyard manure, but believed they could be no substitute for humus. In his view, expressed in the *New English Weekly*, wartime

<sup>8</sup> On the Economic Reform Club and Institute, see Philip Conford, 'Finance versus farming: rural reconstruction and economic reform, 1894-1955', *Rural Hist.* 13 (2002), pp. 225-41. The speeches were printed in the *New English Weekly*, 9 Mar. 1939.

<sup>9</sup> Gerard Wallop founded *New Pioneer* in December 1938; its political stance was such that he prudently closed it down early in 1940. On *Purpose* and *Christendom*, see Conford, *Origins*, pp. 169-70 and 198-99.



policy aimed to force up output without increasing expenditure on manpower, and he believed that many farmers regarded 'with profound misgiving the double boost given to the use of nitrogenous stimulants by the chemical combine and the Ministry of Agriculture'.<sup>10</sup>

Certainly those who refused to use artificials risked creating difficulties for themselves, though it was possible to mount a successful appeal against being forced to use them, as the Yorkshire bio-dynamic farmer Maurice Wood showed.<sup>11</sup> This was, however, an isolated example, which was not indicative of the broader trend. At Clent, David Clement found the CWAEC's field officer sympathetic, and he was never required to use more artificials than he could reconcile with his conscience.<sup>12</sup> Despite such exceptions, the times were not propitious for organic methods, but the organicists did not allow this to dishearten them. They harassed the artificials industry to such an extent that ICI and Fisons found it necessary to defend their products in a series of advertisements, or to seek compromise with their organic opponents, or to attempt to mock or discredit them. The humus-vs.-artificials controversy commanded considerable space in the pages of *Farmers Weekly* and the *Fertiliser Journal*. And 1943 was a particularly lively year, bringing Rothamsted's centenary, publication of Balfour's *The living soil*, and a major debate in the House of Lords on the possible dangers of artificials.<sup>13</sup>

One of the battle's most striking features is how determined the fertilizer industry was to destroy the organic case. Despite dominating agricultural policy and despite a phenomenal increase in the use of its products since 1940, it regarded all opposition as lese-majesty or even as downright unpatriotic. At some level, the fertilizer companies must have felt insecure, probably fearing diminished demand after the War. Donald Hopkins, a chemist and journalist who worked for the industry, noted that the general public seemed to respond favourably to the organic case. He was particularly critical of Laurence Easterbrook's influence in the *News Chronicle*, apparently considering it wrong for a humus enthusiast to write a column in a national paper.<sup>14</sup>

Yet a study of the wartime *News Chronicle* reveals that Easterbrook's support for the organic approach was by no means a regular feature of his contributions, many of them simply being devoted to enthusiastic accounts of wartime agriculture's successes, or outlining the latest policy initiatives. Hopkins might, though, have been bothered by the response to Easterbrook's article on the bio-dynamic gardener Maye Bruce, with 4000 readers writing to the paper to ask for details of her methods. Easterbrook challenged the government and the fertilizer companies: if Miss Bruce's and Sir Albert Howard's claims for composting were true, then they directly concerned national health and the principles of food production, and 'the time ha[d] come when they should be subjected to rigorous and exhaustive examination on a national scale'.<sup>15</sup>

<sup>10</sup> John Martin, *The development of modern agriculture* (2000), p. 61. Ronald Duncan, *Journal of a husbandman* (1944), pp. 106–7. Short *et al.*, *National Farm Survey*, pp. 127–28. Friend Sykes, *Humus*, pp. 161–62. Henry Williamson, *Lucifer before sunrise* (1967), pp. 387–88. *New English Weekly*, 25 Feb. 1943, pp. 161–62.

<sup>11</sup> HRO, 15M84/F203.

<sup>12</sup> Conversation with the author, 22 Aug. 2002.

<sup>13</sup> See Philip Conford, 'The myth of neglect: responses to the early organic movement, 1930–1950', *AgHR* 50 (2002), pp. 89–106.

<sup>14</sup> *Fertiliser, Feeding Stuffs and Farm Supplies J.*, 10 May 1944, pp. 219–20.

<sup>15</sup> *News Chronicle*, 12 Mar. 1943; 22 Apr. 1943.



The case for an experiment managed to obtain a hearing from the Agricultural Research Council in March 1945, when Gerard Wallop, with his fellow Lords Teviot and Geddes, presented it to a group of agriculturalists which included the Earl De La Warr, Sir Frank Engledow and the Director of Rothamsted, Sir William Ogg. De La Warr did not consider the case sufficiently strong, and it was agreed that Teviot and company should be required to define in detail the experiments considered desirable.<sup>16</sup> The same year, Rothamsted's previous Director, Sir John Russell, edited the book *Agriculture to-day and to-morrow*, which contained a chapter by another Rothamsted scientist, E. M. Crowther. While not referring to Howard by name, Crowther castigated his principles by implication, concluding with a plea to the farming community to 'resist the snares of doctrinaire propaganda' and instead commit itself to using still greater amounts of nitrogenous and phosphatic fertilizers.<sup>17</sup> Supporters of artificials at times implied that anyone opposing their use was unpatriotic: since Britain's war effort depended on its ability successfully to raise food production and artificials were deemed to be crucially important in this process, any opposition to their use was tantamount to undermining the war effort.

### III

Why, then, did the organicists resist the onward march of artificials, despite their evident success? First, we should note that – with the possible exception of Howard – they were not absolutely opposed to their use. Jenks's views have already been mentioned, and Easterbrook was prepared to use artificials on his Sussex farm in order to provide an initial boost on poorer, less fertile land. But, it was argued, however useful they might be as a stimulus, artificials could not help create the humus essential for a fertile soil. The organicists rejected the view that returning particular chemical elements to the soil could compensate for what was being extracted from it. The soil was far too complex for such simplistic treatment. A centuries-old pattern of soil management was being rejected in favour of methods being imposed with the backing of companies who stood to profit from a policy whose long-term effects were incalculable. It was not clear how heavy use of artificials would affect the earthworm population, or the process of mycorrhizal association so important to plant health and requiring a humus-rich soil; nor was it clear what validity the statistics from Rothamsted's trial plots might have for the practical farmer. In 1940 Howard's *An agricultural testament* was published, demonstrating the proven success in various parts of the world of the composting methods he had developed in India. The organic school maintained that the increasing battery of fertilizers and pesticides was unnecessary if the soil was replenished with properly prepared organic matter. Reliance on artificials might be justified in the short-term emergency of war, but if it became long-term policy the soil could only suffer.

There was another reason, too, and one which has always been an integral part of the organic philosophy: the belief that a diet of fresh food, grown on humus-rich soil, without artificials or pesticides, is a major contributor to animal and human health. Eve Balfour's influential book *The living soil*, published in the autumn of 1943, is subtitled 'evidence of the importance

<sup>16</sup> HRO, 15M84/F199.

<sup>17</sup> Sir E. John Russell (ed.), *Agriculture: to-day and to-morrow* (1945), p. 59.

to human health of soil vitality, with special reference to post-war planning, and the same year saw the publication of a report on the Pioneer Health Centre, which sold in the region of 50,000 copies. Its appearance was trailed in the *News Chronicle* by Louise Morgan, who quoted the scientist Julian Huxley's belief that the pre-war work at Peckham was a 'second voyage of the *Beagle*'. The paper also reported Eve Balfour's address to the Food Education Society in the summer of 1943, under the heading 'Compost is Best for Soil, Plants and Ourselves'. Two years later, Howard's second wartime book appeared, *Farming and gardening for health or disease*, in which he claimed that 'Soil fertility is the basis of the public health system of the future'.<sup>18</sup>

It was a forlorn hope, but the organicists tried during the War to advance the case for a preventative medicine based on study of the conditions making for health, and in particular on an understanding of the role played by sound nutrition. Briefly stated, the hypothesis was that humus-rich soil lent vigour to plants and the animals that fed on them; it therefore seemed likely that human health could also benefit, and there was evidence, chiefly drawn from pre-industrial societies, which supported this view.<sup>19</sup> If the nation was about to establish a socialized health service, then it was a matter of potential importance and sound economy to determine whether the hypothesis was correct. Furthermore, food grown from artificials might prove a threat to health.

As was only to be expected, supporters of artificials pooh-poohed such ideas. Reviewing Howard's *Agricultural testament* in the *Journal of the Royal Society of Arts*, Sir Daniel Hall commented that 'when Sir Albert asks us to believe that crops grown with his "humus" are not only immune to disease but convey immunity to the men and animals which consume them, then argument gives place to amazement'.<sup>20</sup>

But the organic school insisted that the matter was sufficiently important to warrant a long-term and well-funded experiment. They argued their case in journals as well as in their books: the *New English Weekly* frequently discussed nutritional questions, while Lionel Picton founded the *News Letter on Compost* in 1941 to present evidence for the hypothesis that he had advanced in the *Medical Testament*. In 1938 Edgar Saxon's journal *Health and Life* had attempted to establish a causal link between the use of chemical fertilizers and the increased incidence of cancer over the previous hundred years; during the War it attacked the vested interests of the fertilizer industry, and slated the proposals for a national health service.<sup>21</sup>

Saxon could be dismissed as an eccentric, but there were noted medical scientists who shared the organic belief in the importance of soil and food for health. The physician J. E. R. McDonagh wrote to the *Sunday Times* in March 1941 about foot and mouth disease, urging the Ministry of Agriculture to reject the option of slaughter and concentrate instead on improving soil and food. The following year, the noted dental scientist Sir Norman Bennett contributed to correspondence in *The Times* on the topic of a Nutrition Council. He considered promotion of good health a prime government duty, regretting that medical training was still based on study of disease. In Bennett's view, nutrition was a form of applied physiology, and it started with

<sup>18</sup> *News Chronicle*, 20 Apr. 1943; 6 May 1943. Howard, *Farming and gardening for health or disease* (1945), p. 181.

<sup>19</sup> See G. T. Wrench, *The wheel of health* (1938), and

Weston Price, *Nutrition and physical degeneration* (1945).

<sup>20</sup> *JRSA* 101 (1940), pp. 885-7.

<sup>21</sup> *Health and Life*, Jan. 1938, pp. 29-33; May 1941, pp. 220-27; Oct. 1943, pp. 131-37.

the feeding of the soil. He wrote again to *The Times* in 1945, calling for healthy food grown on healthy – i.e. humus-rich – soil.<sup>22</sup>

#### IV

Beyond the plan to improve the nation's health by the consumption of organically-grown food lay a still more ambitious project: to reinstate agriculture at the centre of British society and make it once more the foundation of the economy, in recognition that the land and its resources are the basis of wealth, and as a challenge to the false measurement of wealth by the abstract figures of the accounts ledger. It is in this sense that the early organic movement was, implicitly or explicitly, political. Support for organic husbandry was intimately linked with the cause of Social Credit economics, and several leading organicists were involved in the Economic Reform Club. In 1943 the Club jointly sponsored a major conference on the topic 'The World We Want', at which speakers included Sir John Boyd Orr, Sir Richard Gregory, President of the British Association, and the Shropshire farmer Lt.-Col. G.P. Pollitt, whose book *Britain can feed herself* had appeared the previous year. The organic perspective was represented by the Earl of Portsmouth, Sir George Stapledon, Lord Sempill and the MP for Lowestoft, Pierse Loftus.<sup>23</sup>

In the same year, the Economic Reform Club began producing an *Agricultural Bulletin*, later re-named *Rural Economy*. The organic school, for whom it was a vehicle, argued that British agriculture had been sacrificed to financial and commercial vested interests, and that it had been starved of credit. In 1942, Philip Mairet, editor of the *New English Weekly*, contributed an article to *Farmers Weekly* on the need for an agricultural credit bank, and the following year Gerard Wallop responded to a letter in *The Times*, which had said that farmers had suffered between the wars from not being credit-worthy: he argued that in fact they had been, but that lenders were after rapid returns. Eve Balfour's *The living soil* contained lengthy reflections on the nature of post-war reconstruction and the need to over-ride vested interests (in food production, the import-export trade and the world of finance) for the sake of the greater national good.<sup>24</sup>

Although the War increased agricultural mechanization and use of chemicals, the organic school remained precariously balanced between optimism and pessimism in their view of the future. Many organicists believed that there was a chance for a fresh approach, if only the sense of farming's importance would survive beyond the end of the War. We can finish this survey of the wartime organic movement by considering the 'Kinship in Husbandry' group, who were explicit about wanting radical changes to English society.

At the end of 1940 Gerard Wallop wrote an article for the *Sunday Times* on the need for 'A League of Husbandry', arguing that agriculture was a central part of what he termed 'state-craft' and that its purpose should be to produce 'a vigorous, flourishing, and enduring life for the people who live not only by tilling the soil, but by the complementary industries and arts which together we call civilisation'. The League of Husbandry would represent the interests

<sup>22</sup> *Sunday Times*, 2 Mar. 1941; *The Times*, 26 Sept. 1942; *The Times*, 12 Jan. 1945.

<sup>23</sup> Economic Reform Club and Institute/Industrial Christian Fellowship, *The world we want* (1943). See

Conford, 'Finance'.

<sup>24</sup> *FW*, 24 July 1942, pp. 26–27. *The Times*, 15 Apr. 1943. E. B. Balfour, *The living soil* (1943), pp. 173–75.

of all primary producers against the hucksters who so disproportionately influenced Britain's commercial life. Husbandry meant caring for the soil's well-being; it implied a mixed farming which would increase self-sufficiency and create a home market for foodstuffs which would also improve the nation's health. There would be a revision of educational values, with hand and mind married through practical skills. This was not a conflict of town and country, but of producer and parasite.<sup>25</sup>

Despite drawing more support than opposition in subsequent correspondence columns, Wallop had to be content with the establishment a few months later of a small Kinship in Husbandry, which aimed to percolate various organizations in order to promote its vision of a post-war society free of both top-down bureaucratic planning and industrial agriculture.

The Kinship's purposes were to advocate the virtues of husbandry and conservation; to oppose monocultural farming and the 'machine-mind'; to combat the 'unnatural separation of the part from the whole' which had condemned millions to unemployment, malnutrition and 'devitalised life and labour'; to conceive society organically rather than mechanistically, transferring economic emphasis from man as consumer and trader to man as producer and craftsman; to modify the economic system to this end, freeing agriculture and industry 'from the burden of a sterile usury', and to call for the extension of local and regional government. The Kinship claimed in no sense to be an executive or political body, but clearly its aims were highly political, even in some sense revolutionary, for it anticipated 'the inevitable revolt of a frustrated mankind against a mechanistic and destructive organisation of society'.<sup>26</sup>

The Kinship's intention to percolate other bodies had some success: Mairet promoted organic husbandry in the *New English Weekly* and was involved in the Church of England's influential Christendom group; Northbourne, Massingham and Wallop were active in the Economic Reform Club; Mairet, Wallop and Gardiner were 'men of the trees'; and books, articles and letters flowed from the pens of Adrian Bell, Arthur Bryant, Rolf Gardiner, Massingham and Henry Warren. In 1945 the Kinship produced a symposium, *The natural order*, which outlined an approach to agriculture very different from that enshrined in legislation two years later. The War's closing stages also saw the first meeting in the process which led to the establishment of the Soil Association. And a month after the War ended Sir Albert Howard wrote an article in the *Evening Standard* urging the new Prime Minister, Mr. Attlee, to 'clutch the flying skirts of happy chance and set in motion the greatest reform in our history – the making of this island ready to receive her children. He will then have won the War twice over'.<sup>27</sup>

However, the form that the peace took, especially where agricultural policy was concerned, was not what Howard and his followers would have wished for, though the fact that the organicists' ideas were not adopted after the War must not obscure the continued importance of the questions they raised. Although unable to halt the juggernaut of industrial agriculture, the organic school at least ensured that it did not roll on unchallenged, and many of their criticisms have renewed relevance today. They opposed the increasing use of artificial insemination,

<sup>25</sup> *Sunday Times*, 1 Dec. 1940.

<sup>26</sup> On the Kinship, see Richard Moore-Colyer and Philip Conford, 'A "secret society"? The internal and external relations of the Kinship in Husbandry, 1941–52,'

*Rural Hist.* 15 (2004), pp.189–206. Typed document in HRO, 15M84/F196.

<sup>27</sup> *Evening Standard*, 5 Sept. 1945.

raising wider questions about the treatment of animals. They argued for a study of the relationship between diet and health. They drew attention to the now much-debated issue of food miles, and, given their concern for the importance of fresh, locally-grown food, would have welcomed the current growth of farmers' markets. Anticipating the global justice movement, they condemned the effects of free trade, which had allowed Britain's agriculture to decline and had exhausted foreign soils. They were aware of the harm done by irresponsible felling of trees – the effects on climate, the increased likelihood of floods, and the damage inflicted on regional economies – and they called for the integration of farming and forestry. Their suspicion of parasitic middlemen has its contemporary counterpart in the mistrust of food companies' control over farmers and criticism of supermarket profits.<sup>28</sup>

But perhaps the most illuminating parallel with today is the humus-vs.-artificial debate, which bears a number of resemblances to the current battle over GM crops. In both cases one finds the organic movement pitted against powerful commercial vested interests who claim that their products are essential if starvation is to be avoided and that those who oppose them are in some way morally callous. In both cases the organic movement appeals to the precautionary principle, asking about the possible harmful effects of the new methods, and questioning the need for ever more complex techniques which create dependency on large corporations. In both cases those who promote the techniques appeal to the historically inevitable progress of science, paint their opponents as Luddites and launch propaganda campaigns objecting to any criticism of their products; and, most significantly, they enjoy access to the corridors of power.

It would be interesting to investigate the steps by which the fertilizer industry during the 1930s came to take such a hold on government thinking. Its organic critics, lacking financial resources, articulated an approach which failed to influence post-war policy in either agriculture or health, but which is now growing in credence as an alternative to the path taken since 1940.

<sup>28</sup> See, for instance, 'Farmers lose out on retail sales,' *Guardian*, 9 Sept. 2002.

# ‘Silage for self-sufficiency’? The wartime promotion of silage and its use in the Peak District\*

by Mark Riley

## Abstract

The government made much effort to persuade farmers to take up silage making during the War. While new farming practices and grassland improvement increased significantly, silage making remained a minority interest until several decades after the end of the War. This chapter considers the development and adoption of silage in the period, drawing in particular on case studies from the Peak District. It examines how, despite a growing recognition among agricultural scientists and government officials of the merits of silage, local climatic, structural, and more importantly cultural barriers delayed its adoption at the farm scale.

‘For the sake of your cattle, for the sake of your pocket, and for the sake of preserving all we can of our livestock, treat this silage question with all seriousness. Silage may well prove the salvation of our stock.’ So said the Minister of Agriculture prior to the onset of the Second World War.<sup>1</sup> The necessity for such a call to arms seems surprising in retrospect, as at the start of the twenty-first century British agriculture has realized the productive benefits of silage, seeing production supersede that of hay by a factor of more than ten.<sup>2</sup> Nonetheless, despite the obvious advantages of silage use in its contemporary form, the detailed chronology presented by Brassley has revealed a chequered history and it was not until the 1970s that its adoption increased dramatically.<sup>3</sup> Indeed, Coppock argued in 1971 that although silage had been encouraged by government grants it was ‘still a minority interest.’<sup>4</sup>

A range of factors converged during the Second World War which should, in theory at least, have made silage a success story: the need to maximize and modernize home production; the unprecedented flow of information to farmers regarding new and improved farming techniques

\* The slogan ‘Silage for Self-Sufficiency’ was used by Eric Rae in the title of an article relating to silage making in the wartime: E. Rae, ‘Silage for self-sufficiency’, *JRASE* 110 (1949), pp. 28–38.

<sup>1</sup> H. I. Moore, *Silos and silage* (1941), p. vi.

<sup>2</sup> Census figures from the Scottish Agricultural Executive estimated that in 2000 the figure was nearer 20 times in Scotland (measured in total tonnage produced).

<sup>3</sup> P. Brassley, ‘Silage in Britain, 1880–1990: the delayed

adoption of an innovation’, *AgHR* 44 (1996), pp. 63–87. While Brassley considers the ensiling of all crops, this chapter focuses on the choice between hay and grass silage.

<sup>4</sup> J. Coppock, *An agricultural geography of Great Britain* (1971), p. 53.





and the substantial developments made in grassland production, particularly the increased use of artificial fertilizers. Nonetheless despite a small increase in production, the War, as this chapter will discuss, did little in gross terms to popularize the uptake of silage. Indeed Seddon has argued in retrospect that the efficiency gains provided by silage 'should have swept hay aside in a season' but that 'farmers took one look, and in a triumph of hope over English summers, resolutely went back to their haymaking. It was as though housewives had stuck to Monday mornings and the laundry copper decades after washing machines had become widely available'.<sup>5</sup>

This chapter builds on the research of Brassley by examining the adoption of silage during the Second World War. It uses as a framework the innovation diffusion model of Rogers which identifies five factors affecting innovation diffusion: *relative advantage*, *compatibility*, *complexity*, *trialability*, and *observability*.<sup>6</sup> The study particularly draws on the Peak District, a predominantly pastoral upland region of England whose high rainfall and relatively short growing season make it an area where the theoretical advantages of silage should have allowed it to flourish during the War.<sup>7</sup> The chapter makes use of the individual accounts of farmers in six Peak District parishes (Table 6.1), recognizing that an appreciation of 'cultural traditions, risk aversion, lack of knowledge and user acceptance' is critical in understanding adoption during the period.<sup>8</sup>

## I

The Second World War saw the third concerted effort to popularize silage production in Great Britain.<sup>9</sup> Details of the origins of the silage process, it has been suggested, have been 'lost in the mists of antiquity'.<sup>10</sup> Specific reference was made to the storing of green fodder in airtight containers in Greece in AD 100, while there is evidence of the ensiling of wilted grass in Italy since medieval times, and in Sweden and the Russian Baltic provinces since the beginning of the eighteenth century.<sup>11</sup> By the 1880s, in response to the suggestion of James Howard MP that the Royal Agricultural Society 'might usefully set foot into the investigation of the process of ensilage and its applicability to the preservation of English fodder crops', a report was published by its secretary, H.M. Jenkins on the 'practice of ensilage at home and abroad'.<sup>12</sup> Jenkins concluded that 'much knowledge remains yet to be acquired' and in the accompanying report Dr Angus Voelcker drew similar conclusions suggesting that 'few justly scientific experiments' had been carried out on silage, arguing that this lack of scientific knowledge and vigour was born out of the 'haphazard' way in which ensilage had been carried out. He

<sup>5</sup> Q. Seddon, *The silent revolution* (1989), p. 27.

<sup>6</sup> E. M. Rogers, *Diffusion of innovations* (1983).

<sup>7</sup> Full details of the area, methodology and results of 64 interviews are presented in M. N. Riley, 'Farm practices and nature conservation: Hay and silage production in the Peak District since 1940' (unpublished PhD thesis, University of Nottingham, 2003).

<sup>8</sup> K. Garland in G. J. Anglin (eds), *Instructional technology: past, present, and future* (1991), p. 283.

<sup>9</sup> C. S. Orwin, 'Farm management – silage', *JRASE* 102 (1941), pp. 25–6.

<sup>10</sup> S. Watson and M. Nash, *The conservation of grass and forage crops* (1960), p. 213.

<sup>11</sup> P. McDonald, A. Henderson and S. Heron, *The biochemistry of silage* (2nd edn, 1990); S. Schukking, 'The history of silage making', *Stikstof* 19 (1976), pp. 2–11.

<sup>12</sup> H. M. Jenkins, 'Report on the practice of ensilage at home and abroad', *JRASE* 20 (1884), pp. 126–246.

then initiated a series of experiments at Crawley-Mill Farm, Woburn to investigate the process more closely.<sup>13</sup>

Despite concerted efforts at popularizing silage, by the end of the nineteenth century its production, from all crops, had at no point exceeded 300,000 tons per year, while hay production averaged nearly 4.5 million tons.<sup>14</sup> Accounts of silage production in the first decades of the twentieth century are conspicuously sparse in comparison to the 20 years before and the period after. Indeed Kersley and Orwin, speaking retrospectively, imply that ensilage had gone through a period of unpopularity and note that it was a process which had been known to previous generations, but one that 'obtained no place in English farm management'; while going on to observe that equipment of that time remained as memorabilia 'found today lying around the stack-yard'.<sup>15</sup> The 1920s saw the refinement of research into silage making, directed in particular by H. E. Woodman of the Animal Nutrition Research Station Cambridge and Dr S. J. Watson at the Imperial Chemical Industries' research station, Jealott's Hill.<sup>16</sup> Much of the research in this period revolved around the development of effective methods of storing silage and the use of molasses and mineral acids as fermenting agents in the ensiling process.<sup>17</sup>

As war loomed silage was considered a necessary measure to conserve the increased production of grass resulting from better grassland management, and in particular the more widespread use of inorganic fertilizers.<sup>18</sup> It was realized that the alternative procedure of artificial grass drying, experimented with in the 1930s, would not flourish under wartime conditions because of its high-energy requirements and resulting financial implications.<sup>19</sup> The government brandished the slogan 'Make Silage, Make Sure', with Orwin commenting that 'For the time being, at all events, the situation is entirely changed, and farmers all over the country are being urged to make silage in the interests of winter milk production'.<sup>20</sup> It was suggested that silage should become a 'cake substitute' and the ensiling of young grass could replace imported feedstuffs as a source of protein in the diet of cattle.<sup>21</sup>

With the onset of war, action was taken to formalize these calls for silage production. County Silage officers were appointed to a number of County War Agricultural Executive Committees, a notable appointment being H. I. Moore, later senior lecturer at Seale-Hayne College, who was taken onto the West Riding WAEC as cropping and silage officer.<sup>22</sup> He indicated the extent of the interest in silage in his book *Silos and silage* where he records being called to the erection of over 500 silos and delivering over 150 lectures on silage production.<sup>23</sup> These county silage officers, in collaboration with provincial advisory chemists, collected some 3000 samples of

<sup>13</sup> F. R. S. Voelcker, 'On the chemistry of ensilage', *JRASE* 20 (1884), pp. 482–504.

<sup>14</sup> Brassley, 'Silage', p. 71.

<sup>15</sup> H. Kersley and C. S. Orwin, 'The comparative costs of mangolds and silage', *JRASE* 86 (1925), p. 48.

<sup>16</sup> S. J. Watson, *The science and practice of conservation: grass and forage crops* (1939); H. E. Woodman, 'Critical examination of methods employed in silage analysis, with observations on some special chemical characteristics of "sour" silages', *J. Agricultural Science* 15 (1925), pp. 343–57.

<sup>17</sup> C. Crowther, 'The feeding of livestock', *JRASE* 98 (1937), pp. 348–91.

<sup>18</sup> W. G. R. Patterson, 'War-time stock feeding. Some investigations and lessons therefrom', *Transactions of the Highland and Agricultural Society of Scotland* 5th ser. 53 (1941), pp. 26–48.

<sup>19</sup> R. N. Dixey, 'Grass driers in war-time', *Farm Economist* 5 (Jan. 1940), pp. 90–3.

<sup>20</sup> C. S. Orwin, 'Farm management – silage', *JRASE* 102 (1941), pp. 25–6.

<sup>21</sup> H. I. Moore, 'Grass and forage – silage on the farm', *JRASE* 116 (1955), pp. 231–3.

<sup>22</sup> Moore, *Silos*, p. v.

<sup>23</sup> *Ibid.*, p. v.



FIGURE 6.1 World War Two bomb crater turned into a silo at Whitchurch, Hampshire, 1941.

Source: MERL, *Farmers Weekly Picture Library*, P FW PH2/S137/14, 1941. On the reverse of the photograph the caption reads 'Works by Goering. When they dropped a bomb on Tufton Warren, Whitchurch, Hants., the Luftwaffe provided the farmer, Mr. L.R. Bomford., with a free silo. He trimmed up the sides of the 30-foot crater, filled it with some 60 tons of silage and then sealed it over with the chalk that had been blown out. For excavation and re-filling, Mr. Bomford used a large scoop on the end of a chain drawn by a tractor, the idea of the chain being to allow the tractor to run on hard ground.'

silage for testing between 1942 and 1944.<sup>24</sup> Silage was advocated in particular for use on heavily stocked farms, with the CWAECs making provision for the hire of cutting machinery for farmers to make two cuts of silage to sustain feedstuffs through the winter.<sup>25</sup> In Wales, silos of up to 20 tons in capacity were made available as part of their National Silage Campaign, with speculative production costings carried out.<sup>26</sup> The government produced instructive documentaries on the practicalities of silage making and supported a National Silage Contest held by the National Federation of Young Farmers which looked at the feasibility of different constructions for storing silage and the quality of the resulting product (Figure 6.1).<sup>27</sup>

<sup>24</sup> Anon., 'The average composition of different crop silages: a report prepared by the feedingstuffs committee of the Advisory Chemists' Conference', *AJMA* 54 (1947), pp. 308–10.

<sup>25</sup> H.I. Moore, 'Cropping for the production of feeding stuffs: Yorkshire', *JRASE* 103 (1942), pp. 98–102.

<sup>26</sup> W. McLean, 'The present position of silage making', *Agricultural Progress* 18 (1943), pp. 39–42.

<sup>27</sup> H.I. Moore and A.S. Barker, 'Our young farmers make silage', *AJMA* 51 (1944), pp. 210–12; MAF, 'Making Grass Silage', a documentary film produced by Realist Productions, directed by Margaret Thomson (1943).

These moves to promote silage at the national scale were mirrored by efforts within the Peak District. The Derbyshire CWAEC pressed for the use of silage, with the Bakewell district officer H. E. Wells advising farmers at a meeting in December 1939 that silage offered a useful method of conserving not only 'our great amounts of grassland', but also crops of vetches and oats which farmers were encouraged to sow as part of the plough up campaign, but which were difficult to ripen successfully.<sup>28</sup> The importance placed on silage use at the national scale was filtered to the district level where it was reported 'owing to the grave situation regarding feeding-stuffs for all forms of stock and particularly concentrates from milk production, the Ministry of Agriculture have requested the Derbyshire County Executive Committee to carry out an intensive silage campaign during the current season.'<sup>29</sup> Accordingly silage sub-committees were formed in each district, with 100 'silage wardens' appointed throughout the district who were responsible for conveying information of behalf of the committee.<sup>30</sup> As part of the Ministry of Agriculture's National Silage Campaign a demonstration was held at Brierlow Grange near Buxton, with the audience addressed by R. D. Scott from the University of Leeds who was appointed as silage officer for the district by Imperial Chemical Industries (ICI). Leaflets were distributed proclaiming 'silage your salvation'.<sup>31</sup> In addition to these promotional events a silage bureau was set up at Bakewell market where the silage officer for the Midland province, T. A. Compton, was in attendance to deal with enquiries.<sup>32</sup>

The local press was utilized in the promotion of silage and its benefits, with adverts placed carrying the slogan 'make your farm safe – make silage'.<sup>33</sup> The publicity drives such as those during the national silage campaign were complemented with efforts to ensure that silage production took root in the longer term. H. C. Wells, for example, put an advert in the *High Peak News* suggesting that while it had been an excellent year for haymaking, there was likely to be shortages next winter and 'there is no question that silage is the best solution to this problem'.<sup>34</sup> Investigations were undertaken by young farmers' groups into the most suitable silage making techniques, and entries offered to the national competition of samples of silage made from various constructions.<sup>35</sup> Structural support for silage making facilities was also made available through the grants offered by the Land Improvement Company, and advisory circulars passed by the local branches of the National Farmers Union.<sup>36</sup>

The classic texts on wartime agriculture remain conspicuously silent on the extent of silage making during the War. While success stories such as wheat output have received much attention, reference to silage is generally confined to passing and often ambiguous references such as 'by 1941 farmers were apparently using their grass to better advantage, whether by controlled

<sup>28</sup> 'Peakland farmers and the War – ploughing up and labour problems', *Buxton Advertiser*, 16 Dec. 1939, p. 3.

<sup>29</sup> 'The silage campaign – arrangements by local agricultural committees', *High Peak News*, 25 Apr. 1942, pp. 6–7.

<sup>30</sup> *Ibid.*, p. 7.

<sup>31</sup> 'The national silage campaign', *High Peak News*, 17 Jan. 1942, p. 33.

<sup>32</sup> J. R. Bond, 'Wartime food production in Derbyshire', *High Peak News*, 13 Jan. 1944, pp. 52–3.

<sup>33</sup> *High Peak News*, 19 Sept. 1942, p. 6.

<sup>34</sup> H. C. Wells 'Silage in the Peak District', *High Peak News*, 24 July 1943, pp. 39–40.

<sup>35</sup> 'Young farmers' silage contests', *High Peak News*, 10 Jan. 1942, p. 3; H. M. Park, 'Young farmers' clubs in Derbyshire', *Derbyshire Countryside*, 17 June 1947, pp. 107–08.

<sup>36</sup> 'Financing farm improvements – the work of the Land Improvement Company', *Derbyshire Countryside* 3 (1939), pp. 48–9; 'Farmers Union – meeting of the Derbyshire branch', *High Peak News*, 4 Apr. 1942, p. 5.



grazing or by preserving it as hay or ensilage.<sup>37</sup> Consequently it is difficult to gauge the success of silage production at the national scale. Figures collated by Brassley from disparate sources suggest that wartime production may have reached one million tons, but his numbers are necessarily somewhat speculative, and contemporary comments suggest that 'the responses to the various "silage campaigns" that were carried out during the late war were rather disappointing'.<sup>38</sup> Indeed it has since been argued that the War actually inhibited the development of silage. Watson and Nash suggested that research had advanced no further in 1960 than that reported prior to the War in Watson's 1939 review for the *Empire Journal of Agriculture*.<sup>39</sup>

## II

To what extent did farmers consider silage to be an innovation? When farmers in the Peak District study area were asked about the origins of their silage use, their immediate references were to their first silage pit, their first silage chopper, or more commonly the first time they used round bale silage. Often, earlier experiments with 'silage' were not identified as such; rather they were viewed as failed attempts to make hay, and hence only recalled when specific questions were asked. It is therefore worth considering here the extent to which silage as perceived by farmers in the study area can be regarded as an innovation by employing the criteria of *relative advantage*, *compatibility*, *complexity*, *trialability*, and *observability* as set out by Rogers.<sup>40</sup>

The characteristic of *relative advantage* or 'the degree to which an innovation is better than the idea it supersedes' – in this particular context the perceived advantage of silage over hay – may be realized in a number of ways such as economic benefits, social-prestige factors, convenience, or satisfaction.<sup>41</sup> In its earliest guises silage was not regarded as particularly advantageous. As one elderly farmer speaking of silage production during the War suggested: 'The problem was, it didn't take you any further forward ... it wasn't like something good ... at that stage it wasn't really better than hay ... there was so much waste, it stunk to high heaven, and it was a bit hit and miss as to whether it would work'.<sup>42</sup> Such questioning clearly relates to whether it was seen as a 'new' practice. Eleven farmers recalled experiences of grass being stored in an uncured or undercured way prior to, or during, the War. Although the resulting process of fermenting grass could technically be called silage, it was rarely considered in this way. 'You couldn't call it silage, not like the silage we make now ... you see it was more often weathered hay ... it sweated like anything, and came out like tobacco ... but it wasn't really like silage'.<sup>43</sup>

Arguably therefore in some cases the production of 'silage' during the War could be seen as failed attempts to make hay. This mirrored the national picture referred to by Davies and Ashton who suggested that 'even in the early days of the War silage was often considered to be

<sup>37</sup> R.J. Hammond, *Food and agriculture in Britain: aspects of wartime control* (1954), p. 46.

<sup>38</sup> This figure is taken from H.I. Moore, *Ploughing for pasture* (1944), p. 28. Government figures on silage were not published until the 1960s; S.J. Watson and A.M. Smith, *Silage* (1951), p. 1.

<sup>39</sup> S.J. Watson, 'The conservation of forage crops

with special reference to grass', *Empire J. Experimental Agriculture* (1939), pp. 42–50.

<sup>40</sup> Rogers, *Diffusion of innovations*, p. 12.

<sup>41</sup> *Ibid.*, p. 15.

<sup>42</sup> Interview, 89 year old farmer, Longnor.

<sup>43</sup> Interview, 91 year old farmer, Hartington.

an emergency measure of doubtful wisdom.<sup>44</sup> This situation therefore had implications for the wartime silage production in its own right. The product resulting from the stacking of grass was often of poor quality and proved a less appealing option than curing hay. This problem resulted from the fact that farmers were, in the first instance, attempting to make hay and reverting to the stacking of the grass only if the weather would not permit drying. Accordingly the grass was left to a mature stage of growth before being cut and was then too mature to ferment properly into silage when placed into stacks.<sup>45</sup>

This issue of relative advantage was therefore closely linked to *trialability*, with silage made primarily when hay could not be, and hence only trialled sporadically. One farmer commented 'when you'd a field full of wet hay you wished there was another way, but the next year when it was glorious weather and you'd a barn full of good hay it was satisfactory enough.'<sup>46</sup> Indeed as the earlier review shows, experiments with silage across Britain were born primarily out of the years when weather conditions rendered haymaking difficult, but with a return to haymaking in favourable years. As a result provisions for silage making during the War, in the Peak District as in other areas of the country, remained 'mostly temporary in character', with Moore noting in the autumn of 1942 that 'many, indeed, have asserted that the progress of silage making has been retarded ten years by the glorious weather of July and August.'<sup>47</sup> So in years of favourable weather conditions, experiments with silage were largely discontinued.<sup>48</sup> Accordingly this sporadic and transitory experimenting with silage meant that its *observability* was low, with few farmers able to gain first-hand experience of the practice, and at the national scale the knowledge base on silage could not be formalized into costings of production and labour requirements from which to plan and promote future silage production.<sup>49</sup>

Today, the overwhelming advantages of silage in production terms are its independence from the weather and the related advantage of allowing two, and in some cases three, cuts of grass to be conserved in one year. However, such advantages were arguably less realizable during the War. In the first instance adverse weather conditions proved less of a stumbling block to haymaking because individual farms had a lower proportion of land growing grass for fodder than today. As the figures from the parishes under study show, the average size of holding was 60 acres, with the average amount of land being cut for grass being 16.5 acres. As one farmer suggested the generally smaller amounts of land per holding being used for haymaking meant that 'there was enough summer for everyone to make their hay'.<sup>50</sup> It is likely that the necessity to conserve greater acreages of grass fodder per holding came only after the War as farm expansion and amalgamation occurred.

Silage was not seen as the best alternative even in cases where the weather made hay production difficult. Instead efforts were turned to obviating the weather risk in haymaking through other methods. Historically a common approach was the 'cocking' of hay to deflect rainwater, traditionally practised in much of northern Britain and remaining popular in the study area

<sup>44</sup> R. O. Davies and W. M. Ashton, 'Ensilage on Welsh farms', *AJMA* 50 (1943), p. 151.

<sup>45</sup> R. O. Davies and W. M. Ashton, 'The making and feeding of silage in mid-Wales', *Welsh J. Agriculture* 17 (1943), pp. 91–5.

<sup>46</sup> Interview, 86 year old farmer, Warslow.

<sup>47</sup> Moore, 'Yorkshire'.

<sup>48</sup> Hammond, *Food and agriculture*, p. 72.

<sup>49</sup> C. S. Orwin, 'Farm economics: silage', *JRASE* 104 (1943), pp. 32–3.

<sup>50</sup> Interview, 83 year old farmer, Longnor.



throughout the wartime period.<sup>51</sup> Indeed one farm taken under the control of the CWAEC in Fawfieldhead was recorded on the NFS return as still having hay cocked in December when 'it had been inspected with a view to ejecting' [the farmer].<sup>52</sup> At the national scale use was made of specially built tripods for the cocking of hay during the War, a practice which received government promotion until the 1950s.<sup>53</sup> Furthermore, even when such techniques could not be employed in safeguarding winter fodder, silage was not necessarily made, with farmers opting to leave grass as 'foggage'.<sup>54</sup> Under this system grass was left standing in the field and grazed through the winter months as the weather permitted. One farmer who 'fogged the grass' suggested that it was preferential to the uncertain system of silage making in wartime, as 'at least you knew you would get something from it, rather than just a pile of rotting grass'.<sup>55</sup>

The great faith placed in hay during wartime was found to relate not so much to its feed value but to the actual practice of haymaking and farmers' skill and ability in carrying out this practice. This relates to the importance of *compatibility* issues in the diffusion of innovations or 'the degree to which an innovation is perceived as being consistent with existing values, past experiences, and needs of potential adopters'.<sup>56</sup> The notion of being a good farmer in the wartime Peak District was inextricably linked to the skill of haymaking. 'I think it was the change really ... I mean folk had been making hay from time immemorial, and to think of doing it differently, or something completely new was against the grain ... Haymaking was a big part of farming, and about being a farmer. My generation were brought up making hay ... that's what summers were about ... getting the hay in'.<sup>57</sup> So while silage has more recently become synonymous with progression and modernity in farming, farmers reported being judged by their peers during wartime as 'go ahead' and 'good farmers' on their ability to make hay, with silage, in these early stages, being incompatible with such an identity.<sup>58</sup>

There were also more subtle objections to the making of silage. Bond argued that 'very often farm workers, when first asked to make silage, have shaken their head sceptically over the master's decision to risk good forage in such an experiment'.<sup>59</sup> This raises the important issue of labour in the trialing of silage. At the national scale, a shortage of labour was an inhibiting factor in the development of silage, which remained a labour-intensive practice during the War.<sup>60</sup> This shortage was an important factor in the study areas, with the 1941 June census recording only 18 per cent of farms employing labour beyond their immediate families.<sup>61</sup> While haymaking itself remained labour-intensive during the War, with devices such as the hay baler not being widely used until the later 1950s, it was lighter and required less technical proficiency than silage and as a result much of this work was carried out by women and children without the need for additional labour. Indeed over 73 per cent of holdings in question were farmed part-time and during the summer the farmer would often undertake tasks such as mowing and carting of hay

<sup>51</sup> E.L. Smith, 'Improving the quality of the hay crop', *AJMA* 57 (1950), pp. 72–8.

<sup>52</sup> TNA, MAF 32/56 (79).

<sup>53</sup> MAF, *Tripod haymaking* (Advisory Leaflet 415, 1952).

<sup>54</sup> W. Davies, 'Foggage', *Agriculture*, 55 (1948), pp. 93–7.

<sup>55</sup> Interview, 81 Year old farmer, Fawfieldhead.

<sup>56</sup> Rogers, *Diffusion of innovations*, p. 15.

<sup>57</sup> Interview, 83 year old farmer, Longnor.

<sup>58</sup> Interview, 80 year old farmer, Parwich.

<sup>59</sup> J.R. Bond, 'Trench silage', *AJMA* 54 (1947), pp. 72–7.

<sup>60</sup> D.R. Bomford, 'Machinery in modern farming', *JRSA* 91 (1943), pp. 74–83.

<sup>61</sup> TNA, MAF 73.

during the evenings and weekends, while the wife and children would be left to work the hay during the day.

### III

Silage making during the War was to a large extent synonymous with farm mechanization, with tractors required for the collection and carting of heavier uncured grass. While it is estimated that there were approximately 50,000 tractors in use prior to the War, it has been suggested that these were largely confined to the eastern half of the country.<sup>62</sup> As Whetham has argued, there was a reluctance to outlay capital on tractors in light of the state of pre-war agriculture, and this was seen most acutely on smaller pastoral holdings.<sup>63</sup> Moore had noted that in the case of Northern Ireland the mechanization necessary for efficient silage making had been largely confined to larger farms of around 100 acres.<sup>64</sup> In the parishes under study the average farm size fell below this, with only 29 holdings owning tractors, and therefore the majority did not possess the necessary level of mechanization to facilitate the adoption of silage.

Little land was ploughed in the study areas prior to the War – in the parish of Fawfieldhead for example only 19 out of 79 holdings were instructed to plough land in 1940 and 1941 – and thus the main motive requirements were for haymaking.<sup>65</sup> It was observed that ‘the horse did all the work we needed it to, you could only make as quick as the weather would dry it, there was very little ploughing or heavy work like that.’<sup>66</sup> Therefore the need to move to tractor power was not so great on these farms, with calculations suggesting that haymaking required 40 per cent less input per acre than ploughing and 70 per cent less than the harvesting of root crops.<sup>67</sup> The unwillingness to mechanize farm operations was less significant a factor than the strength of the position of the horse. The horse played a vital role in the persistence of hay production, both in its utility for the production and as a consumer of hay. Indeed lessons had been learned from the First World War when a severe shortage of hay for horses had been encountered.<sup>68</sup>

In 1960, A.J. Wynne referred to the prolonged use of horses in the study area. ‘In the Peak District, about 15 years ago, I was amazed that over 90 per cent of farms were still making hay with horses, when in the arable parts of the country horses had virtually disappeared.’<sup>69</sup> This persistence was related to the distinct advantage of the horse over the tractors available during the War in that the horse could work on steep and wet terrain – something necessitated by the slopes and poorly drained land over much of the study area.<sup>70</sup> This manoeuvrability was important on the heavy and often waterlogged meadows where the procedure was to cut the grass initially and allow the meadow land several days to dry before the grass was worked

<sup>62</sup> Murray, *Agriculture*, p. 56.

<sup>63</sup> E. Whetham, ‘The mechanisation of British farming, 1910–1945’, *J. Agricultural Economics* 31 (1960), p. 318.

<sup>64</sup> T. Moore, ‘Silage-making in Northern Ireland’, *AJMA* 54 (1948), pp. 532–5.

<sup>65</sup> TNA, MAF 72/56.

<sup>66</sup> Interview, 80 year old farmer, Alstonfield.

<sup>67</sup> P. McConnell, *The agricultural notebook* (8th edn,

1910), p. 75.

<sup>68</sup> F.M.L. Thompson (ed.), *Horses in European economic history: a preliminary canter* (1983), p. 31.

<sup>69</sup> Quoted in the discussion on the presidential address: Whetham, ‘Mechanisation’, p. 329.

<sup>70</sup> J.T. Wadlow, ‘Where the horse scores’, *AJMA* 56 (1949), pp. 63–5.

into hay. Here the horse remained preferable to tractors, while the necessary drying time was more closely suited to making hay than silage.

In addition to these problems and objections to making silage, its wartime development was also impeded by problems of storage and feeding. Early experiments with silage tended to make use of 'cheaply' converted farm buildings which had become redundant as a result of the depression in arable farming.<sup>71</sup> However such buildings were rarely available outside arable areas and this was recognized with a wartime publication on how to make silage without such buildings.<sup>72</sup> In the Peak District, farm buildings were primarily stone-built shippens with overlying hay lofts which made using silage difficult both in terms of storage and its feeding to cattle in individual stalls. There was little motivation to alter these buildings or construct new ones as they had proved an efficient method of storing and feeding hay. Several farmers in the study area cited this as a factor which inhibited silage production during the War, particularly on tenanted farms where landlords were unwilling to fund developments. Over 64 per cent of farms in the study area were tenanted and as Bosanquet echoed nationally at the end of the War: 'farmers will continue to ask their landlords to repair their old buildings and to give them new ones, and landlords will continue to promise to do something next year'.<sup>73</sup>

The utilization of silage for winter-feeding presented several problems. First was the degree of uncertainty in calculating winter supplies. Experienced farmers knew the feeding potential of their haystacks and lofts, while fermented grass became compressed and often had high levels of wastage, leading one farmer to suggest that 'knowing how much useable fodder you'd uncover in the winter was a lottery'.<sup>74</sup> Transporting silage also proved problematic, particularly where it needed to be taken to out-wintering stock. The interviews revealed that hay was often transferred between farms during late winter as some stocks ran low and other farms had surpluses.<sup>75</sup> As Street noted, silage could not be transported far due to heating and while hay could be sold and kept over for the following year, silage had to be consumed as soon as the stack had been opened.<sup>76</sup>

#### IV

This chapter has shown that during the Second World War silage was promoted more than was warranted by the practicalities of silage-making at that time. The 'evangelical campaign on the use of nitrogen', furthered by S.J. Watson, was at odds with possibilities in the Peak District.<sup>77</sup> Here, much of the development of silage came through sporadic trials made in desperation when conventional haymaking failed. Such infrequent use meant that knowledge of silage was limited at the farm scale where farmers could not gain first hand observations of silage in practice. Such a void in knowledge meant that silage making remained a complicated and uncertain process, offering little perceived advantage over haymaking which fitted in well with

<sup>71</sup> Jenkins, 'Ensilage', p. 233.

<sup>72</sup> MAF, *Making silage without expensive buildings* (Advisory Leaflet 243, 1939).

<sup>73</sup> C.I.C. Bosanquet, *Farm mechanisation* (1946), p. 51.

<sup>74</sup> Moore, *Silos*, p. 12.

<sup>75</sup> The 1941 June census recorded 14 per cent of the sample having surplus hay stored: TNA, MAF 32/582.

<sup>76</sup> A.G. Street, 'Silage and hay', *AJMA* 53 (1946), pp. 145-7.

<sup>77</sup> K. Blaxter and N. Robertson, *From dearth to plenty* (1995), p. 146.

the existing labour force, equipment and facilities of most farms. It should be remembered that while the tardiness of silage adoption confounds modern commentators, the technical advances in silage have been cumulative and have been realized primarily in the post-war period. It has been seen that at the time of the Second World War silage was less compatible with British agriculture than hay, both structurally, economically, and most significantly, culturally. By the end of the War haymaking arguably remained 'something more than a farm operation: it is a solemn right, a burnt sacrifice offered on the altar of tradition. The hay harvest is an institution as deeply embedded in the rural conscience as the wakes: moveable, like Easter, but a definite point in the season's calendar'.<sup>78</sup>

<sup>78</sup> W.B. Mercer, 'Ensilage in the west Midlands', *AJMA* 54 (1947), pp. 29–35.

# The supply of tractors in wartime

by Peter Dewey

## *Abstract*

The enormous rise in the number of tractors in British agriculture in the Second World War is well known, but there has been less interest in analysing how this was achieved. Before the War, more than half of the UK home-produced tractors were being exported. This chapter notes the acquisition by the Ministry of Agriculture of a pre-war reserve of tractors in the summer of 1939 as the result of an initiative by Ford of Great Britain to offset the loss of the firm's exports in the recession of 1937–8. During the first 13 months of the War, exports were allowed to continue, and Fords responded vigorously to the rapid rise in home orders. After 1940, exports were in effect prohibited, releasing capacity for home orders, and thereby increasing the tractor stock. Imports under Lend-Lease and on a commercial basis provided the rest. Attempts to stimulate production of tractors other than Fordsons were only partly successful.

The pre-war British tractor market had been dominated by the Fordson. This, the first tractor of truly modern design in the world, dated back to 1917, when the Ford Company had sold the first 5000 to the British government. However, Ford was slow to establish a British factory. The company acquired land at Dagenham for this purpose in 1923, and whilst the factory was under construction supplied the British market from the USA until 1928 and from its reopened factory at Cork in 1929–32. The Fordson Model N, little changed from the original Model F of 1917, was first produced in quantity in England at the new Ford factory at Dagenham which opened in 1932. In 1933, the first full year of production, an output of 2778 was achieved. By 1937 it had reached 18,698. This was the pre-war peak, since the economy then experienced a sharp recession in 1937–8, which reduced Fordson output to only 10,647 tractors in 1938.<sup>1</sup> However, the Fordson's output still far surpassed that of any other make, even though it was technologically outdated by this time. It was difficult to start, had high petrol consumption, and lost power though an inefficient transmission system. But it had the great virtue of being much cheaper than any of the competing makes.

The only serious competition to the Fordson came from Harry Ferguson's first production tractor, the Ferguson-Brown, which was much more technologically advanced, although more expensive than the Fordson. The revolutionary novelty of the 'Ferguson System' tractor was its hydraulic implement lift, which permitted greater efficiency in use of the tractor's power, and made it better suited for cultivating small fields. The Ferguson-Brown was in production from 1936, selling a total of 1350 before production ceased in 1939, when the partnership between Ferguson and his manufacturer, David Brown of Huddersfield, collapsed. Immediately thereafter,

<sup>1</sup> M. Williams, *Ford and Fordson tractors* (1985), App. 2.

Ferguson entered into an agreement with Henry Ford to produce a new Ferguson-system tractor in the USA (but not in the UK). David Brown produced his own tractor, launching it at the Royal Agricultural Show in June 1939. This, the VAK-1, was more powerful than the Ferguson-Brown, and also had an hydraulic implement lift system, designed by David Brown, which did not infringe the Ferguson patents.

The only other producer on any scale was Marshall of Gainsborough. This firm had been the first to produce a diesel tractor in the UK, in 1930, and from 1932 produced several variants on this basic concept. Output between 1932 and 1938 had been not more than about 650 in total. A new version, the Model M, was launched in 1938. This, like its predecessors, had the virtue of running on cheap, low-grade fuel oil, and had few moving parts to be maintained. With its large flywheel it had the power and precise regulation of operating speed necessary to drive a threshing machine. It also found some applications in forestry work. Amongst farmers it had a keen, if limited, following. It was, however, more expensive than both the Fordson and the David Brown.<sup>2</sup>

These apart, there were crawler tractors produced by Fowlers of Leeds, smallholders/market gardeners' tractors produced by Ransomes and Bristol, and some tracked conversion of Fordsons produced by Roadless. All were produced in very small numbers.

# I

Although still the dominant force in the British tractor industry, Ford of Great Britain had been very badly affected by the 1937–8 recession. This had been chiefly felt in the loss of exports. In 1937, with Fordson output at 18,698, exports – 11,039 tractors – had formed well over half of production with UK sales standing at only 7569. In 1938, exports fell by almost half, to 5517, and home sales to 5130, making total output only 10,647, or 57 per cent of that of the previous year.<sup>3</sup> Aware that government policy had by then altered to one of stimulating home food production in anticipation of a war with Germany, Fords decided to approach the government with a proposal of potentially mutual benefit. The company first contacted the Food (Defence Plans) Department, but was referred to the Ministry of Agriculture. Mr. Harper, from the Ford Motor Co., met Mr. C. T. Houghton of the Ministry on 21 September 1938. Harper, according to the ministry's minute, had called '... to enquire whether his Company could be of any assistance to this Department in the event of a major war'. He told Houghton that at present the company was producing Fordsons at the rate of about 50–60 a day, or about 250–300 a week, with a working week of five days. If necessary, output could be raised to 80 a day within three months. Thus it seems that present output was at the rate of 13,750 a year, with the possibility of raising it to 20,000 a year quite quickly.<sup>4</sup>

Ford had chosen a good moment. The Munich crisis was in full swing; Chamberlain had flown to Germany on 15 September, and was to do so again on 22 and on 29 September, when

<sup>2</sup> A. T. Condie, *The Marshall-Fowler album* (1995), p. 96.

<sup>3</sup> A. T. Condie, *Fordson Model 'N', 1929–45* (1991), p. 1. The Fordson export and home sales sum to 18,608 rather than the total given by Condie of 18,698. There is no

single source on Fordson tractor output covering all of this period.

<sup>4</sup> TNA, MAF 58/111, 'Tractors required in time of war'.



the Munich Agreement was signed. Trenches were being dug in public parks, and millions of gas masks had been issued to the population. The offer was repeated by the head of the Ford Tractor Department, Mr. Daniels, a week later, on 28 September. He '... came in order to make contact with the Ministry, and to let us know that the Company are most anxious to do everything in their power to meet the tractor requirements of the agricultural industry should war break out'. But for the time being the Ministry decided not to proceed further with these discussions.

A glance back at the 1938 production and export record of Fords indicates that the company had good reason to explore all possibilities of restoring its tractor trade. Although there seems to have been some recovery by the time of the September meetings, output was still running much below that of 1937. The prospect of war suddenly breaking out, and the government looking to Fords for a quick boost to tractor output, must have seemed attractive. However, the Munich crisis passed, and the Ministry took no action. But it was a different story in 1939, when the German occupation of the rump of Czechoslovakia (15 March) was succeeded by the Anglo-Polish agreement for mutual protection (31 March).<sup>5</sup> From then on, war was seen to be more or less inevitable, and the Ministry more receptive to renewed overtures from Fords.

The changed climate is seen in the fact that this time it was the Ministry which asked to see Fords. In the Ministry, Mr. Houghton minuted that Lord Perry (Head of Ford UK) and Mr. Hennessey (Managing Director, Ford UK) came at the Ministry's request on 24 April 1939 to discuss '... the question of producing and holding on behalf of the Government a stock of Fordson tractors to be used for ploughing-up grassland in the event of war'.<sup>6</sup> According to Mr. Hennessey, output was still about 55 per day, so had not increased since the autumn of 1938. This time however, an agreement was reached. In May 1939 the Agricultural Development Act had offered farmers £2 for each acre ploughed, with the aim of ploughing an extra 1.7 million acres, and gave the Ministry authority to acquire a stock of fertilizers and tractors. On 30 June, agreement was reached between Ford and the Ministry that Ford was to produce at its own expense a stock of 3000 tractors over the next six months which would be stored and maintained by Ford dealers. If war broke out, then the government would purchase the tractors at a discounted price (list price, less 27.5 per cent). If war did not occur, then the government would have no obligation to Fords.<sup>7</sup> This agreement was activated on the outbreak of the war with Germany on 3 September 1939. It was the biggest element of increased demand in the company's sales for 1939, which were estimated by the Ministry to be 3500 higher than in 1938. Another estimate, by Condie, is that the increase was 5065. Which of these is the more accurate is uncertain. But whichever it is, the tractor reserve accounted for most of it.<sup>8</sup>

<sup>5</sup> A. J. P. Taylor, *English history, 1914-1945* (1965), pp. 439-42.

<sup>6</sup> TNA, MAF 58/115, 'Tractors - storage', minute by C. T. Houghton (CTH), p. 3.

<sup>7</sup> TNA, MAF 58/114, 'Tractors - storage', minute by C. T. Houghton.

<sup>8</sup> TNA, MAF 58/84, 'Importation of agricultural tractors, 1940', p. 3; Condie, *Fordson Model 'N'*, p. 1.

## II

The second element in raising the supply of tractors in wartime was the leeway offered by utilizing tractors formerly destined for export. The pre-war market was dominated by exporting. Murray wrote in his history of British farming during the Second World War that:

A large part of the home production of tractors in the pre-war years was exported, and it has been estimated that only about 8500 of the 18,950 home-produced and imported tractors in 1937–9 found their way on to farms in the United Kingdom.<sup>9</sup>

After the peak production year of 1937 exports began to fall, and continued to do so. The Ministry of Agriculture's estimate of UK tractor production and sales in 1938–40 is seen in Table 7.1.

The continuing fall in exports, coupled with the recovery in home output, meant that the availability of tractors for the home market had been raised very substantially as early as the end of 1940. In that year, some 16,500 tractors were available for the home market. This may be compared with a total output of about 18,500 tractors (of all makes) in 1937. However, in that year only about 7500 would have been destined for the home market.<sup>10</sup> Thus as early as the end of 1940, the supply of tractors to the home market had more than doubled, as compared with 1937. The comparison would be even more telling if the years 1938–40 are considered. In effect, the fall of exports had a 'gearing' effect, by which the home supply of tractors rose more rapidly than could have been achieved by the expansion of output from the factories.

The decline in exports was at first not welcomed by the government. In the first year or so of the War, and certainly until the fall of France in May 1940, consideration was given to the perceived need to continue exporting in order to earn foreign exchange. In the spring of 1940, a Ministry of Agriculture memorandum noted that: 'Every effort is being made to maintain, if not expand, the export trade; and it is to be expected that the home agricultural market will be supplied with about 15,000 tractors this year – an increase of some 5000 on 1939'.<sup>11</sup>

This is not to say that exports were free of restrictions. Tractors, binders and threshers were from the start of the War on the 'A' list, for which licences had to be obtained for export to any destination. Ploughs were on the 'A' list until 15 January 1940, when they were transferred to the 'B' list (no licence necessary for export to the British Empire). They went back on the 'A' list on 15 August 1940. Various machines and implements (chaff-cutters, drills, grinding mills, harrows, manure distributors, potato lifters, rolls, hay harvesting machinery) were free of control until 15 August 1940, when they were put on the 'A' list.

However, these restrictions did not eliminate the export trade, even if it was severely constrained. There was still an export trade in tractors and machinery in the first half of 1940. In February 1941, a Ministry of Agriculture review of the export situation observed that:

As regards the first group [the A list], Fordson tractors were exported in substantial numbers in the first part of 1940 ... In the six months July–December 1940, exports were permitted only in isolated cases or for non-agricultural types.<sup>12</sup>

<sup>9</sup> Murray, *Agriculture*, p. 378.

<sup>10</sup> Williams, *Ford and Fordson tractors*, App. 2; CSO, *Annual abstract of statistics* 84, 1935–46, Table 186.

<sup>11</sup> TNA, MAF 58/84, 'Importation of agricultural tractors 1940'.

<sup>12</sup> TNA, MAF 58/79, 'Exports: Policy, 1939–42'.

TABLE 7.1. UK tractor production, exports and home sales, 1938–40

	<i>Production</i>	<i>Exports</i>	<i>Home sales</i>
1938	10,080	6242	3838
1939	14,740	4780	9960
1940	18,050	1534	16,516

Source: TNA, MAF 58/162, 'Agricultural engineering industry – postwar arrangements', p. 5.

TABLE 7.2. Exports of Fordson tractors, 1937–44

	<i>number</i>
1937	11,039
1938	5517
1939	4786
1940	1711
1941	6
1942	–159
1943	198
1944	76

Source: Condie, *Fordson Model 'N', 1929–45*, p. 1. Exports have been calculated by subtracting UK sales from production.

The export of Fordsons in 1940 may have seemed relatively substantial under war conditions, but it was a shadow of its peacetime level. Condie's figures for exports of Fordsons put it into perspective, as seen from the peak export year of 1937 (Table 7.2). There seems no doubt that the export of all types of agricultural machinery, including tractors, had been severely curtailed by early 1940, and that it fell much further in the second half of that year (Table 7.3). A manuscript note at the bottom of the page in the Ministry's memorandum on exports showed exports in the period July–November 1940 as being worth a total of £217,000, which was a sharp decline from the monthly level of January 1940. It was composed of ploughs (£57,000), threshing machines (£28,000), tractors and parts (£39,000) and 'others' (£93,000).<sup>13</sup>

The export trade had been virtually extinguished by the end of 1940. Effective from a date which is uncertain, but which is probably February 1941, the general rule became that no export of agricultural implements or machines would be allowed, except (i) where implements for export were held in stock and were unsuitable for use in the UK; or (ii) where such implements were incomplete, but needed only relatively little labour and material to finish them for export; or (iii) where it could be proved that the war effort of the Allies would be handicapped if some implement or part urgently needed in the export market were withheld.<sup>14</sup>

<sup>13</sup> Ibid.

<sup>14</sup> TNA, MAF 58/81, 'General observations by Ministry of Agriculture and Fisheries on pleas made by

Ransomes, Sims & Jefferies Ltd., and R. Hunt & Co. Ltd., re exports of agricultural machinery'.

TABLE 7.3. UK exports of tractors and farm machinery, 1937–January 1940 (£)

	1937	1938	1939	Jan. 1940
Tractors	1,036,125	621,547	378,929	92,827
Ploughs	238,149	207,168	158,417	26,032
Threshers	52,810	48,767	52,747	3259
Other	483,697	409,944	323,638	22,818
Total	1,810,781	1,287,326	913,731	144,936

Source: TNA, MAF 58/79, 'Exports: Policy, 1939–42'; Ms. note of figures taken from the Trade and Navigation Returns.

The effect of the steady squeeze on exports of farm machinery may be roughly gauged by the official figures of the weight of farm machinery exported annually. In 1937 it had been 28,600 tons, and declined steadily, to 10,900 tons in 1940. In 1941 it fell to 4100 tons, in 1942 3700 tons, and in 1943 it was 4600 tons.<sup>15</sup> Accepting Condie's figures of negligible tractor exports after 1940 (the Fordson weighed about 1.5 tons), it seems that most of the wartime exports were machinery rather than tractors.

### III

The collapse of tractor exports by late 1940 released a substantial amount of productive capacity to serve the home front. As we have seen, Fordson output in September 1938, when Fords first approached the Ministry of Agriculture, was about 55 a day, which with the current five-day week at Dagenham, and assuming a working year of 50 weeks, would translate into an annual output of 13,750. Even in April 1939, when next the Ministry held talks with Fords, output was still 55 a day. But by May 1940, output had doubled, to about 100 a day. This was an impressive achievement, but it must be borne in mind that even in September 1938 the company had envisaged being able to raise output to 80 a day (20,000 a year) within three months, seemingly without any particular difficulties; a reminder of how far Dagenham was working below capacity.<sup>16</sup>

The expansion of Fordson production was a considerable achievement. There was a lean period in the summer of 1940, when shortages of steel reduced output, culminating in September, when only 555 tractors were delivered in the whole month, but output was up to 400 a week by December, and by 1943 it was up to 625 a week. The five-day week was abandoned, and seven-day shift working instituted. Some of the Fordsons were destined for airfield work, and other military roles, but most of them went into British farming. Dagenham also did munitions work, producing Bren gun carriers, engines and military vehicles. The huge factory complex beside the Thames, covering 66 acres, was an obvious target for the German air force. Partly to reduce the visibility of the site, as completed Fordsons were lined up at the dockside awaiting shipment, the colour scheme was changed. The original 3000 ordered for the government were in the

<sup>15</sup> CSO, *Annual abstract* 84, Table 223.

<sup>16</sup> TNA, MAF 58/84, 'Importation of agricultural tractors 1940', para. 2.

TABLE 7.4. Production of Fordson tractors, 1939–45.

	<i>number</i>
1938	10,647
1939	15,712
1940	20,276
1941	22,210
1942	27,650
1943	26,300
1944	23,845
1945	17,770

Source: Condie, *Fordson Model 'N', 1929–45*, p. 1.

orange paint adopted in 1936. In late 1939 this was altered to green, and all subsequent wartime Fordsons were of this colour. This did not prevent the factory being bombed several times, and six people were killed while at work, although this did not materially impede production. The contribution of the company to the agricultural programme, and to the wider war effort, was considerable. However, it should be borne in mind that there was spare capacity at the works in 1939, and although the peak output figure recorded by the company (27,650 in 1942) was 48 per cent more than the highest pre-war figure (18,698 in 1937), the company had the assistance of the government in ensuring supplies of raw materials and labour, and was able to institute a longer working week without opposition from the trade unions, since wartime legislation prohibited strikes.<sup>17</sup> The most rapid rise in the output of Fordsons occurred in 1939–41. Between July 1939 and the end of March 1941, 34,867 were produced. In all, between September 1939 and the end of the war with Germany in June 1945, production amounted to 137,483.<sup>18</sup> Annual output varied (Table 7.4).

Fordsons apart, the next largest contribution to the wartime supply of tractors was made by imports, chiefly under Lend-Lease. Demand for tractors could not be satisfied entirely from home manufacturers. This was largely a matter of importing types which were not produced in the UK. Such were the larger, higher powered four-wheel tractors, produced in the USA by Case, International Harvester, Allis-Chalmers or Minneapolis-Moline. These could all be supplied in higher power ratings than the Dagenham Fordsons. Their advantages were that they could work faster, and cope more easily with threshing machines and other barn machinery. The Ministry of Agriculture noted that they 'are wanted for operating the heavy English type of 4' 6" threshing drum and ploughing on heavy land wherever a crawler is not absolutely essential'. Another type was the row-crop tractor such as the Allis-Chalmers B Model tractor. Their usefulness consisted in the fact that they could 'take the place of horses and so increase the

<sup>17</sup> H. St. G. Saunders, *Ford at war* (n.d., c.1946), pp. 54, 57; Williams, *Ford and Fordson tractors*, p. 78; Peter Dewey, *War and progress: Britain, 1914–1945* (1997), p. 306; TNA, MAF 58/96, Memo of MAF for Exchange

Requirements Committee, 9 Dec. 1940, 'Supplies of agricultural machinery and implements in the United Kingdom'.

<sup>18</sup> Saunders, *Ford at war*, chapter IX (no pagination).

output of labour in planting and cultivating potatoes, sugar beet and all root crops'. The ministry's memorandum noted that: 'No efficient rowcrop tractor is yet made in the UK'. Fordson had attempted to market a row-crop version of the N model in the 1930s, with a particular eye on the US market, but this had not been successful.<sup>19</sup>

Finally, there was a demand for tracklaying tractors, which again were not made in any quantity in the UK. These were required for heavy work, in which it was essential not to compact the ground, or in situations in which conventional wheeled tractors could not get an adequate grip without damaging the soil structure. They were required above all for reclamation work. Drainage was a priority. Over the years 1940–44, some 4 million acres of land were drained. Much of this was done by tracklayers, and the older steam drainage tackle. The tracklayers were almost all imported from the USA. On 31 January 1944, there were 6243 tracklayers of US manufacture – Caterpillar, International Harvester, Allis-Chalmers and Cletrac – working on British farms. These apart, there were only about 60 others, which were either Fowler or Lanz (German) models. Tracklayers were especially useful in the waterlogged Fens, where previous drainage systems had broken down. Alan Bloom's book, *The farm in the fen* (1944) described the difficulties and achievements of one such enterprise.<sup>20</sup>

The ambitious targets for national food output, and the difficulties experienced by home manufacturers, led to a large rise in imports from the start of the War. In 1939–40, imports were only restricted by shortage of shipping space and foreign exchange. The signing of the Lend-Lease agreement with the government of the USA in March 1941 removed the latter constraint. At that time, home output was concentrating on wheeled tractors, cultivating implements and hay mowers, but the demand for tractors, ploughs, disc harrows and combined drills (which sowed seed and fertilizer simultaneously) much exceeded the home supply, so that the initial Lend-Lease programme for the second half of 1941 concentrated mainly on these items.

However, the entry of the USA into the War on 8 December 1941 confused all plans and priorities, and the original import programme was left unfulfilled. The tractor programme had consisted of orders for 1100 tracklayers (of which 515 were from the Caterpillar Co.), 2400 wheeled tractors of 30 HP and above (mainly Oliver, Allis-Chalmers, Massey-Harris and Minneapolis-Moline types), and 6400 row-crop tractors. These latter consisted of 1400 Allis-Chalmers, 1300 International Harvester, and 1800 Ford-Fergusons, this last being the new tractor incorporating Harry Ferguson's patented three-point implement hitch, which was now being manufactured by Ford at Detroit. The Ford-Ferguson, the Ministry of Agriculture noted, 'may be classed as a rowcrop machine, having adjustable front and rear axles ... these tractors are specially useful for cultivation in small fields and for the potato crop'. However, the reorientation of US manufacturers to war production, and the losses of machinery in transit due to submarine attack, reduced the import of tractors, so that only 4200 arrived. The shortfall was particularly evident for tracklayers. In May 1942 the Ministry of Agriculture had stipulated that the 1942–3 cropping programme depended on the import of 115 heavy, 400 medium and 2500

<sup>19</sup> TNA, MAF 58/97: UK Agricultural Production Committee, '1943 farm machinery requirements' (12 Nov. 1942).

<sup>20</sup> Murray, *Agriculture*, pp.128–9; TNA, MAF 58/97,

UK Agricultural Production Committee, '1943 farm machinery requirements' (12 Nov. 1942); MAF 58/162, 'Agricultural engineering industry – postwar arrangements'; A. Bloom, *The farm in the fen* (1944).



TABLE 7.5. UK home and imported tractors, 1940-44.

	<i>Tracklaying, agricultural</i>	<i>Market garden</i>	<i>3- and 4-wheeled</i>	<i>2-wheeled</i>
Home	270	2074	103,542	12,004
Imported	4745	0	29,329	947
Total	5015	2074	132,871	12,951

Source: TNA, CAB 87/18, 'Farm machinery supplies, 1937-44', Table A.

small tracklaying tractors. Few of these had arrived in time for the spring cultivations of 1943: in November 1942 the shortfall of imported tracklayers was noted as being 2600.<sup>21</sup>

The build-up of the Allied military effort, in preparation for the invasions of Europe and Japan, meant that after 1942 imports of farm machinery would decline. But the contribution of imported tractors to the total wartime supply of tractors was considerable, as can be seen from Table 7.5.

The contribution from imports was proportionately greatest in the three and four-wheeled section, in which imports accounted for 22 per cent of the total supply in 1940-4. The supply of tracklayers was almost entirely imported. Imports were clearly of considerable importance in ensuring the wartime tractor supply.

#### IV

Finally, what contribution was made by the other UK tractor manufacturers? The 1939 deal between the Ministry of Agriculture and Fords rankled with the other manufacturers and provided a convenient stick with which to beat Ministry officials. The other manufacturers were keen to be allowed to produce more tractors, and intrigued to that end. The most promising supplier was David Brown, which had just produced its own tractor in June 1939, after the failure of its partnership with Harry Ferguson. This machine, the VAK-1, was a good product, and at 35 HP rather more powerful than the Ferguson-Brown. It was utilized by the armed services for airfield work, as the tractors were suitable for towing aircraft; some were fitted with a fluid flywheel to make their movements gentler on the aircraft. The firm was also heavily engaged in making gears, chiefly for tanks; it had been a gear-making firm before its association with Ferguson. The head of the firm, David Brown, was very keen to be allowed to make his tractors for agricultural use, sensing an even bigger market thereby. His ambitions were supported by the chief machinery advisor to the Ministry of Agriculture, S.J. Wright, who produced a very favourable report on the VAK-1 on 29 January 1940, after visiting Brown's works at Meltham, near Huddersfield. He thought the VAK-1 could be used instead of the Fordson, and that it could replace some of the smaller imported tractors. He concluded that the Ministry should back the firm in its plans for expansion, *inter alia*, because the factory lay in a steep secluded valley,

<sup>21</sup> Murray, *Agriculture*, pp. 161, 190; TNA, MAF 58/96. 'Orders for tractors from the USA under Lease-Lend for the half year ending 31 Dec. 1941'; MAF 58/97, UK Agricultural Production Committee, '1943 farm machinery requirements' (12 Nov. 1942). Murray gives the total tractor order as 6,000, whereas the orders cited here, from MAF 58/96, add to a total order of 9,900.

and was unlikely to be bombed from the air. In this he was right, since the factory was never bombed. His stance was supported as late as October 1941 by a senior official, C. I. C. Bosanquet, who would have liked to have raised David Brown's output of all tractor types from its existing 1,500 to 4,000. However, the last word was had by the Ministry of Supply, which decided in January 1942 that Browns were of more use to the war effort producing tank gears and airfield tractors. If the firm should meet its targets for both of these, then it would be allowed to produce agricultural tractors. In practice, most of the tractors produced by Browns (a total of 5350 VAK-1s up to 1945) were of the airfield type.<sup>22</sup>

Marshall of Gainsborough was also pressing for permission to produce more agricultural tractors, and played the resentment card concerning the pre-war Fordson deal. On 27 August 1941 Mr. Parker of MAF minuted that

Mr. Burton of Marshall's called yesterday and discussed his production programme with Mr. Gaunt and me. As on previous occasions, Mr. Burton opened out with the now familiar move that he was not given a look in with the Government contract to supply tractors in June 1939, and it is quite clear that he is suffering from some kind of complex on the matter. It is to no purpose to explain to Mr. Burton how different the situation was in the period before the War from what it is now, and I steered Mr. Burton off these fruitless recollections. If you see Mr. Burton, however, at any time, he is almost sure to open up in the same kind of way, but I can give you the history of the matter at any time should you wish to be fortified on this point.<sup>23</sup>

Marshall's was at that time occupied to about 80 per cent of its capacity with Admiralty work. The rest was divided between threshers (160 produced in 1941) and tractors (at the rate of 80 a year in August 1941). Mr. Burton proposed to reorganize the works but needed additional machine tools in order to increase tractor output, and he asked the Ministry for help in acquiring them. Parker recalled that Burton had had similar ideas in May 1940, these being then dependent on getting a certain radial drill. Eventually Burton had obtained the drill on his own initiative, but had used it for Admiralty work rather than the production of agricultural machinery. To bring Burton to the point, Parker told him that the MAF would be prepared to place an order with him there and then for 500 tractors. 'It was quite clear at once that Mr. Burton was very interested in the proposal. He could not say, however, how they could deal with it.' The upshot of these discussions was that, in spite of Burton proposing a programme to make 750-1000 tractors a year, nothing was done, and in October 1941 the Ministry of Supply pronounced the project dead, and said that any machine tools supplied to Marshall's should be used for tank production. The last reference to the firm in the Ministry's files, in March 1943, records the firm as making only six tractors a week.<sup>24</sup>

The only other possible contender in the UK tractor manufacturing sector was Harry Ferguson. Under his famous 'handshake agreement' with Henry Ford, his new tractor, the

<sup>22</sup> M. Williams, *Great tractors* (1982), p. 85; TNA, MAF 58/112, 'Report on the David Brown tractor', memoranda by S. J. Wright and C. I. C. Bosanquet.

<sup>23</sup> TNA, MAF 58/121, 'Marshall's Sons and Co. Ltd,

Supply of tractors, 1940-44', memorandum by Mr Parker, 27 Aug. 1941.

<sup>24</sup> Ibid.

Ford-Ferguson, was now being manufactured by Fords in the USA. Ferguson was very keen to see it being manufactured at Dagenham to supplant the Fordson. He maintained that his original deal with Ford had envisaged this. But the British Ford management, led by Lord Perry, was resolutely opposed. In spite of Ferguson arranging various demonstrations of the excellence of his tractor in front of Ministry officials and Ford managers, Perry and his board remained unconvinced. In this they were supported at an early stage in the War by the Ministry of Agriculture. The arguments which weighed with the Ministry turned on the inadvisability of abandoning the well-trying, cheap and proven Fordson to retool for the more expensive Ford-Ferguson at a critical point in the War. In reviewing the arguments, Donald Fergusson, the Permanent Secretary observed on 20 December 1939 that:

We have something like 50,000 tractors in the country at present, the great majority of which are Fordsons, and we can produce more of them at the rate of over 100 a day. It is not essential for us to have a newer type of tractor even assuming that it is a much better tractor. I feel therefore that we ought not to put any pressure on the Board of Trade or the Treasury to give special facilities for the import of Ford-Fergusons, or upon the Ministry of Supply to grant facilities for erecting plant to manufacture them in this country in time of war. It is clearly in the national interest that we should take a firm stand against this agitation, and I think that by doing so now we shall save worse trouble later on.

To this memorandum, the minister, Sir Reginald Dorman-Smith, added the terse minute: 'I agree. RDS'. The Ferguson campaign was over.<sup>25</sup>

## V

The great expansion of the British farm tractor force in the Second World War was remarkable. In slightly less than six years the number of farm tractors tripled. Most of this expansion was achieved by a great productive effort at the Ford Motor Company's factory at Dagenham. This paper does not attempt to belittle this achievement, but to point out that there were other elements at work apart from the sheer effort displayed at Fords. The agreement between Fords and the government in 1939 helped to form the nucleus of a useful tractor force for the first ploughing season of the War, as well as providing Fords with more sales to offset the decline in exports in the previous year. The collapse of tractor exports, which had accounted for most Fordson output until 1938, proceeded further after the 'phoney war' ended in the middle of 1940 and thereafter, the export market was virtually extinguished. This released much spare productive capacity at Dagenham for the supply of the domestic market. The rest of the expansion of the British tractor force was provided by imports under Lend-Lease. The only shortfall of any significance in the overall tractor supply was in crawler tractors, where there was little home production, and imports fell short of the target. The dominance of Fordson was resented by other British tractor makers, and they intrigued against it, but to no avail. What the War did not see was great technical innovations in tractor design. The Ministry of Agriculture, when

<sup>25</sup> TNA, MAF 58/116, Copy of Permanent Secretary's minute on A.M.574.

offered Ferguson's innovative tractor or the David Brown VAK-1, preferred caution and the comfort of the familiar but dated Fordson over the new machines. Where in so many respects the War brought change, in the provision of tractors the government remained locked into pre-war technologies.

# The Women's Land Army and its recruits, 1938–50

by Gill Clarke

## Abstract

The role of the Women's Land Army has been a neglected aspect of the history of British farming in the Second World War. This chapter seeks to address this neglect and to evaluate the contribution of the Women's Land Army to the wartime food production campaign and the crucial part they played in maximizing and increasing levels of productivity from the land.

The Women's Land Army (WLA) is one of the most conspicuous and memorable aspects of the food production campaign. Land Girls dressed in distinctive green jerseys, brown breeches, brown felt slouch hats and khaki overcoats, have become an iconic image, symbolizing Britain's success in winning the domestic battle to raise food production.<sup>1</sup> However, with the exception of the official history compiled by Vita Sackville-West (1944) and Carol Twinch's *Women on the land: their story during two world wars* (1990), the history of the organization has been largely overlooked.<sup>2</sup> Yet, the work members of this organization undertook on the land, often in appalling conditions, and under immense hardship, was vital to the success of the war effort. In discussing the contribution of the WLA, both autobiographical and biographical evidence from an ongoing research project into the history of the WLA will be utilized.<sup>3</sup>

<sup>1</sup> I do not attempt here to assess the contribution of the WLA to the war effort vis-à-vis other types of workers, an exercise which is problematic – see section V of this essay where I explain why. Readers are referred in particular to the research of H. T. Williams who, in an influential article written after the War, reported his attempt to quantify the contribution of the WLA to the war effort. H. T. Williams 'Changes in the productivity of labour in British agriculture', *J. Agricultural Economics Society* 10 (1954), pp. 332–3. Williams's article was endorsed by Murray, *Agriculture*, p. 243. I am grateful to John Martin for drawing this to my attention.

<sup>2</sup> V. Sackville-West, *The Women's Land Army* (1944); C. Twinch, *Women on the land: their story during two world wars* (1990).

<sup>3</sup> My research has involved documentary analysis and detailed interviews with ex-Land Girls, and attending reunions and Services of Commemoration for the WLA and Timber Corps Veterans at the Cenotaph. I have also interviewed a former German Prisoner-of-War who worked alongside Land Girls, a WLA administrator and a WLA assistant secretary. Additionally, over 180 women have written autobiographical accounts about their WLA experience and it is these that are quoted throughout this chapter. At enrolment the women were aged between 17 and 29, and served from just over one to 11 years. For more detail about the biographical research see G. Clarke, 'Lives on the home front: the Women's Land Army', *Auto/Biography* 9 (2001), pp. 81–8.

## I

On 9 April 1938 Lady Denman was asked by the Minister of Agriculture to become Honorary Director designate of a future WLA. Denman had been Assistant Director of the WLA in the First World War and thus had extensive experience to bring to the crucial role of developing a skeleton organization. Just over a year later on 1 June 1939, the WLA, a civilian organization entirely staffed and run by women, was officially re-formed. Balcombe Place, Denman's country estate in Sussex, was officially designated as its administrative headquarters from the end of July. Chairmen and County Secretaries had already been appointed to 52 County Committees, and seven Regional Officers (for England and Wales) were placed in charge of groups of counties. A conference of these newly-appointed officials was held in London in June 1939 'and arrangements were made to start the interviewing and formal enrolment of members, and to send as many as possible for short term holiday training on farms'.<sup>4</sup> Provincial newspapers were used to raise the profile of the WLA's work and solicit applications from women. Countess De La Warr, chairman of the East Sussex WLA committee, in a letter published in the *Eastbourne Herald* on 17 June 1939 explained:

... in a future war, food production will be a work of vital importance – a work in which women will have to play an active part. At least 50,000 will be needed ... We want them to enrol in the Women's Land Army now ...<sup>5</sup>

Interested women were instructed to complete the application form in the *National Service Handbook* or enrol at the local branch of the Women's Voluntary Services.<sup>6</sup> The target was not the thousands of women and girls already working on the land but a new labour force willing to be trained.

There was a massive response, and by August 1939 30,000 women had enrolled. By 3 September when war was declared, 1000 trained volunteers had been placed in immediate employment, many on the farms where they had received their instruction.<sup>7</sup> However, by the end of December only 4484 women were in employment and criticism of the failure to absorb the women onto the land became increasingly vocal. The initial opposition and prejudice of farmers to employing members of the WLA, whom they believed would not be of any real help, coupled with the fact that the outbreak of war came just a month or two before the onset of winter (the slackest season of the farming year) and the anticipated aerial bombing of urban centres did not materialize, exacerbated the employment situation.<sup>8</sup> Thus, 'many [women] had

<sup>4</sup> I. Jenkins, 'They served the land: a tribute to the work of the Women's Land Army, 1939–50', *AJMA* 57 (1950), p. 403.

<sup>5</sup> Countess De La Warr, *Eastbourne Herald*, 17 June 1939. This immediate need for labour was not, however, recognized by the Ministry of Labour. See the chapter by Richard Moore-Colyer in this volume.

<sup>6</sup> The *Handbook*, published by His Majesty's Stationery Office and sub-titled *A guide to the ways in which the people of this country may give service – with a message from the Prime Minister*, was issued on 25 January

1939 and comprised 48 pages detailing the main forms of service the nation needed in the event of war and a post-paid 'form of application for National Service'. The Handbook was delivered by the General Post Office to all households and was also available from post offices and local offices of the Ministry of Labour.

<sup>7</sup> B. G. Brew, 'Women's Land Army training', *AJMA* 50 (1943), pp. 376–8.

<sup>8</sup> See the Sixth Report, Select Committee on National Expenditure, session 1940–41 (1941), pp. 10–20.



TABLE 8.1. Women's Land Army, numbers employed December 1939 – December 1943.

	31 Dec. 1939	31 Dec. 1940	31 Dec. 1941	31 Dec. 1942	31 July 1943	31 Dec. 1943
England	4282	6738	18,756	47,345	64,480	63,522
Wales	202	284	863	1847	3758	3709

Source: V.Sackville-West, *The Women's Land Army* (1944), p.95.

to join the queues at the employment exchange; some had relinquished good jobs to render national service, others had hoped for employment after weary months of disappointment'.<sup>9</sup> Lady Denman admitted that 'no one foresaw that the blackout and the shortage of petrol would throw out of work men like mechanical garage hands who found employment on the land as tractor drivers'.<sup>10</sup>

By contrast, the mobilization and utilization of other sources of labour was treated more sympathetically by the farming community and wartime officials. 'Concessions were ... made by the Services. Soldiers were made available for the harvest; [as were] a small number of "key men" ... from the Territorial Army upon recommendation by the Ministry of Agriculture; temporary releases for up to two months were sanctioned ...'<sup>11</sup> Regulating the supply and demand for labour in agriculture with its fluctuating seasonal variations was to remain a problem throughout the War.

The winter of 1939–40 was one of the hardest in living memory, with freezing rain in February which resulted in 'severe ice formation on trees, fences and grass'.<sup>12</sup> Edith Barford, who had joined the Land Army aged 18 in July 1939, recalled the heavy snow and drifting in early 1940, and how 'for about a month no traffic came through the village. The water supply was frozen and my last job at night was to go about 50 yards to the village pump to prop up the handle – so that the pump did not freeze in the morning'. Those Land Girls who, like Edith, stoically worked through such harsh conditions 'laid the foundations for the Land Army's reputation. The majority were employed singly on farms as milkers or general farm workers ...'.<sup>13</sup> By April 1940 there were 6000 Land Girls in employment and by the following year this number had more than doubled to 13,000.<sup>14</sup> Thereafter expansion followed both in numbers and in the range of the work undertaken (Tables 8.1, 8.2). On 4 December 1941, Britain became the first country to conscript women: this initially involved unmarried women between the ages of 20 and 30 and was part of a series of moves announced by Churchill to combat the critical labour shortage which affected not only agriculture but also virtually all sections of the economy.

The mobilization of women also encompassed the Women's Timber Corps (WTC), a sub-branch of the WLA, which was established in April 1942. The WTC was the responsibility of the Ministry of Supply (unlike the WLA which was the responsibility of the Ministry of Agriculture and Fisheries). By the end of December 1943, 4339 girls were employed felling trees, working

<sup>9</sup> E. Burton, *What of the women: a study of women in wartime* (1941), p. 55.

<sup>10</sup> S. Schofield, 'M-O Report no. 26: Women in wartime', Jan. [1940], in D. Sheridan (ed.) *Wartime women: an anthology of women's wartime writing for Mass-Observation, 1937–45* (1990), p. 77.

<sup>11</sup> Murray, *Agriculture*, p. 82.

<sup>12</sup> J.M. Stratton, *Agricultural records, AD 220–1968* (1969), p. 152.

<sup>13</sup> Jenkins, 'They served the land', p. 403.

<sup>14</sup> G. Huxley, *Lady Denman GBE, 1884–1954* (1961), p. 159.

TABLE 8.2. Women's Land Army and Timber Corps, employment analysis, December 1943.

Milking and other farm work	20,159
Other farm employment, not including milking	12,521
Horticultural employment	10,817
Other jobs	1674
Employed by WAECs	26,374
Timber Corps	4339

Source: V. Sackville-West, *The Women's Land Army* (1944), p. 95.

in sawmills or on their own to select and mark suitable trees for felling and specifically those that might be used for telegraph poles. The work of these 'Lumber-Jills' or 'pole-cats' as they were irreverently known, contributed significantly to increasing Britain's supply of domestic timber.<sup>15</sup>

The need to provide more labour for agriculture became even more evident by the third year of the War. In March 1942 it was reported in the *Journal of the Ministry of Agriculture* that:

The food production campaign has now entered the most critical stage of the whole war ... Briefly it comes to this: less shipping will be available for the importation of food of any kind, and more material and man power will be required for purely war purposes. It is imperative, therefore that more food should be produced at home, and all practicable ways and means found of overcoming the inevitable difficulties, real and imaginary.<sup>16</sup>

The work of the WLA remained crucial as bulky food imports needed to be reduced still further and more grassland ploughed up. The December 1942 issue of the *Journal* announced that:

Agriculture is fighting the battle of the seas in the middle of the fields. In our different ways we are all fighting for victory ... But let us never forget that the men in uniform are called upon to sacrifice everything, even life itself. We shall have done our full part only when we have obtained the utmost productivity from our land and animals.<sup>17</sup>

Members of the WLA played a significant role in providing additional labour for agriculture throughout 1943, a year that was viewed as the 'crucial year' and the time for maximum effort from all. Girls were joining in the summer of 1943 at the average rate of a thousand a week, and by June numbers had reached 65,000.<sup>18</sup> In July conscription was extended to all women not looking after children under 14. By August the Government banned further recruitment to the WLA in an effort to release labour to meet the needs of the aircraft industry and to force

<sup>15</sup> Sackville-West, *Women's Land Army*, pp. 61, 95. See also the Foreword by Sir Gerald Lenanton, Director of Home Timber Production Department, Ministry of Supply, in *Meet the members. A record of the Timber Corps of the Women's Land Army* (1946), pp. 4, 95.

<sup>16</sup> Anon., 'The spring offensive. Total effort', *AJMA*, 48

(1942), p. 189.

<sup>17</sup> Anon., 'Shipping space and the farmer', *AJMA*, 49 (1942), p. 129.

<sup>18</sup> V. Douie, *Daughters of Britain. An account of the work of British women during the Second World War* (1950).

women into less popular war work such as munitions. Nevertheless, there was to be no let up in the war effort as grave concerns were raised about a world shortage of food on the liberation of Europe and other occupied territories.

Entry to the Land Army was reopened in early 1944 on a limited scale: by June the total number of Land Girls employed had reached 80,000, at which stage they accounted for about half of the increase in the number of land workers since June 1939.<sup>19</sup> On 31 August 1946 the WTC was disbanded, although the WLA continued to recruit. But four years later, in November 1950, when the membership had dwindled to 6800, it too was disbanded.

## II

Many Land Girls were attracted to the 'romance' of working on the land in a healthy and happy job, and the recruitment posters commissioned by the Ministry of Information, did little to dispel these idyllic images of a rural haven in an unspoiled and mud-less, sunny countryside (Figure 8.1). In addition, recruitment leaflets appealed to the patriotism of the women. One such leaflet (c.1943) was headed 'REAP THE HARVEST OF VICTORY JOIN THE WOMEN'S LAND ARMY.' The leaflet made it clear that:

IF YOU JOIN | You must promise to serve for the duration of the War and to give full-time mobile service in whatever part of the country you are required.

It also stated:

WHAT YOU MUST BE | Between 17 and 40 years of age | Strong and healthy | Not afraid of hard work | Fond of country life

In order to give a sense of the hard work required, the *Handbook for the Women's Land Army* suggested that volunteers should

... try carrying buckets full of water for half an hour or more at a time, and then attempt[ing] to pitch earth onto a barrow and then onto a shelf about breast high for another hour or so, to see whether she can bear the aches and pains entailed. Farming work is not spectacular, but it does mean hard physical strain ...<sup>20</sup>

None of the Land Girls with whom the author has been in contact appeared to have undertaken this arduous trial. What did emerge was that a considerable number joined because they enjoyed outdoor life and saw the Land Army as a worthwhile job. Further, they did not want to join the forces (a view that was shared by some of their parents) and be subject to military discipline or to work in a factory. The following remarks from their life stories were indicative of these views:

I joined the Women's Land Army before the War, because I loved the countryside, and

<sup>19</sup> A. Calder, *The People's War: Britain, 1939-45* (1969), p.428. The percentage depends on how the figures are calculated, i.e. whether it deals with only workers or

whether it also includes farmers and their families.

<sup>20</sup> W.E. Shewell-Cooper, *Land Girl: A handbook for the Women's Land Army* (c. 1940), pp.94-5.



FIGURE 8.1. 'We could do with thousands more like you ... Join the Women's Land Army' (TNA, INF 13/140/19). These posters also had the less obvious message of trying to persuade farmers to overcome their initial opposition to employing members of the WLA.

enjoyed botany, and animal life, and fresh air. The other services did not appeal – who knew where work in the ATS or WAAF would take them.

I never wanted to be drilled or watched or anything like that.

I fancied a country life, and getting out of London. The instigating event was seeing a poster in a field at Potter's Bar, where we went each night to sleep under my grandmother's table. The poster said 'Lend a hand on the land' with a fetching picture of a kitted-out girl in breeches and jersey and wielding a fork.

I joined because being a country girl and used to animals it seemed right.<sup>21</sup>

The patriotism of WLA members and their desire to contribute to the war effort was much in evidence. Some even lied about their age in order to join, typified by comments such as:

<sup>21</sup> These comments were respectively made by Edith Barford (née Downes) who joined the WLA in July 1939 aged 18, Joan Cowderoy (1940 aged 28), Molly Campbell (née Rogers, joined Feb. 1941 aged 20), and Irene Eady (née Gascoigne, joined May 1944, age unknown).

After a running battle with my dear father, I finally joined the WLA in 1943. Like all young people in those days of war, I wanted to get into 'something' and help the war effort. My father went to see Lady Denman, then Head of the WLA to ensure that I did not get in, and I went to see her to ensure that I DID. Kind understanding lady that she was, she said she would back me against my father if my heart was really set on joining. It was, and she did. She suggested my mother signed my application form, which, bless her, she did.

In my youthful innocence/ignorance the thought had appealed that I would be helping to feed people and bring life into the world rather than contributing to destruction [and] the taking of life.

Some joined to escape the bombing and others an unhappy home life.

I joined up to live in the country and to get away from the bomb damage in Hull: I was bombed out ... also my friend who had joined looked so fit and well.

At 14 years old I discovered I was adopted and things went from bad to worse, so at 19, I joined the WLA ... I was sent to Newport Pagnell in Bucks, it was a hostel, for the first time, I WAS HAPPY with other new recruits.<sup>22</sup>

Dorothea Abbott, who was called up in 1942 at the age of 21, described in *Librarian in the Land Army* how she 'joined because land work was more constructive and [she] was a pacifist'.<sup>23</sup> It is also important to acknowledge that some Land Girls felt quite misled by recruiting talks which made no mention of the stark realities of rural life and the potential for loneliness for those working singly on small isolated farms.

Some of the Land Girls involved in this research joined after the War, including Elizabeth Aspinall who joined in August 1948, aged 21. The WLA in January of that year still had over 25,000 members who had been asked by the Minister of Agriculture to continue for another two or three years. 'A new agricultural expansion programme was planned and the women were needed to ensure its success'.<sup>24</sup> Elizabeth Aspinall revealed that 'at the time I was working on laundry vans, but men returning from the War needed their jobs back. Further, after being in the blitz I wanted to get away from the city for some peace'.<sup>25</sup> The popular weekly magazine *Women's World* on 9 April 1949 carried a column headed 'ASKING US ... WOMEN'S LAND ARMY. What qualifications would I need in order to join the Women's Land Army?'. The article made it clear that recruits had to be 'willing to consider taking on land work for at least twelve months'.<sup>26</sup>

A third of the wartime members of the WLA came from London and the industrial cities in the North; but many had never lived away from the comforts and safety of the home.<sup>27</sup> Every volunteer was interviewed by no fewer than two members of the Land Army panel of

<sup>22</sup> These comments were respectively from Vivienne Vick (maiden name unknown, joined in Apr. 1943, a few days after her 18th birthday); Frieda Feetham (maiden name unknown, joined in July 1943, age unknown); Muriel Berzins (née French, who joined in 1943 aged 19); and Joan Anderson (née Hallwood, who joined in 1947 aged 18).

<sup>23</sup> D. Abbott, *Librarian in the Land Army* (1984), p. 2.

<sup>24</sup> Twinch, *Women on the land*, p. 132.

<sup>25</sup> She said that those who did not join the WLA until after the War were known as 'Rainbows'.

<sup>26</sup> *Women's World*, 9 Apr. 1949, p. 20.

<sup>27</sup> Sackville-West, *Women's Land Army*, pp. 8, 15.

interviewers for their county in order to ascertain their suitability. The types of questions asked included whether they had had any experience of agriculture or horticulture, if they had any preference for any particular work and whether they could drive a car or ride a bicycle. Sackville-West explained that 'privately the interviewer is of course sizing up the girl and forming her own estimate of her intelligence, physique, and general suitability'.<sup>28</sup> A pamphlet to inform Americans *How Britain lives* emphasized how careful this selection process was, and that on average only one in three applicants was accepted.<sup>29</sup>

Recruits came from a wide variety of social backgrounds. Many had little knowledge of country life, as one Land Girl acknowledged:

The nearest I'd been to a cow was a picture in a book. As I walked down the lane at 6 a.m., I wondered if I had made a mistake in the time, as the sky was still black and the moon brilliant. I'd never been up and about so early before. I found the farm, and hence the cowstall where milking had begun and was asked to stand back and watch for a while. Eventually I was given a milking overall, a bucket and stool, and placed beside one of the 22 cows. It was a case of 'squeeze and suffer' for both of us. However after a few mornings and afternoons it all came right.<sup>30</sup>

Sackville-West noted:

She has been a shop-assistant, a manicurist, a hair-dresser, a short hand typist, a ballet-dancer, a milliner, a mannequin, a saleswoman, an insurance clerk ... At a moments notice she has exchanged all that ... her working hours seem never definitely to end, for on the land there may always be a sudden urgent call, she lives among strangers, and the jolly atmosphere of homely love or outside fun is replaced often by loneliness and boredom.<sup>31</sup>

The recruitment leaflet referred to earlier also had a section entitled 'YOUR BENEFITS', one of which was described as 'A free working outfit of uniform with regular renewals'. The outfit was deemed the property of the Government and was to be returned to the 'county office in a clean condition, together with the badge, if the volunteer resigns or is dismissed'.<sup>32</sup> There were strict instructions about how and where it should be worn. Frequently though, not all articles of uniform were supplied. Joan Cowderoy recorded in her diary that on 1 February 1940 'I rang up the Land Army to ask permission to buy a pair of gum-boots and charge it up to them as I need them badly, they granted it, so I am going into Maidstone on Saturday to buy them'. Three weeks later she wrote how 'I received 12s. 6d. from the Land Army for my gum-boots, I have to pay the 3s. balance which I think is fair'.<sup>33</sup> Those joining in the winter of 1941-2 were particularly unfortunate as there was by this time a general shortage of cloth, and thus one third of Land Girls were left without greatcoats.

<sup>28</sup> Ibid., p. 16.

<sup>29</sup> J. Levy, *How Britain lives: three years of war* (1942), p. 28.

<sup>30</sup> Vivienne West joined the WLA in April 1943, just a few days after her 18th birthday and stayed for three years.

<sup>31</sup> Sackville-West, *Women's Land Army*, p. 7.

<sup>32</sup> See the 16-page leaflet, *Information for Women's Land Army representatives* (1943), p. 14.

<sup>33</sup> Cowderoy, personal diary entry, unpublished. I was loaned Joan Cowderoy's wartime diaries for consultation for my research.



## III

Laurie Lee wrote in 1945 that Britain's battlefield was the land – and given that the vast majority of Land Girls had little previous experience of farm work some basic training was required.<sup>34</sup> However, it was made clear to recruits that this would only be provided where it was deemed necessary by the County Secretaries. Lady Denman was adamant by 1940 that:

The object of training is to give the girls some knowledge of general farming and care of stock, and latterly the majority ... have been concentrating ... on learning to milk in order to meet the increasing demand for women milkers ... It will be realised that a months training ... cannot and does not attempt to produce an experienced agricultural worker ... All that is hoped is to give some practical knowledge of life and work on a farm, enough to enable a willing girl to be of some use to an employer who recognises that she has much to learn and is ready for his part to teach her.<sup>35</sup>

The implication of this is that the girls were not expected to take over the work of skilled farm workers but merely to provide a source of semi-skilled labour. It could be argued that the girls provided a valuable source of this type of labour – that is, they were young, physically fit and energetic workers who were able to carry out many of the jobs on the farm. Agriculture did not require all workers to be experienced and skilled. There were many activities, such as stacking sheaves, which could be undertaken by women new to farming.

As a consequence, the extent and quality of the training that Land Girls received varied considerably; indeed, some received none and many simply learnt on the job. The more fortunate Land Girls had the opportunity of four to six weeks training at Farm Institutes such as Sparsholt near Winchester. Here they were instructed in hand and machine milking, animal husbandry, tractor driving and handwork jobs. Michael Greenhill, an instructor in agriculture at Sparsholt during the early years of the War, wrote *A Book of Farmcraft* in 1942 in response to concerns about 'Land Girls always doing things the wrong way, often endangering themselves and others'. This book was produced with Evelyn Dunbar who did the illustrations of tasks such that the Land Girls would know the right way to do them. For instance, it contains charming drawings of 'Turning a horse out into a field', 'Milking-right position' and 'Going through a gateway'. Dunbar, in her role as a salaried war artist, spent extended periods of time at Sparsholt as she had been commissioned by the Ministry of Information to record women's work on the home front given that it was considered to be an important part of the war effort. The resultant Land Girl paintings were displayed around the country in touring exhibitions intended to boost morale.<sup>36</sup>

At Plumpton Agricultural College in Sussex Land Girls had to attend evening lectures after working all day on the land and were then expected to write up their notes. The Principal was

<sup>34</sup> See the chapter 'War comes to the land', in *Land at War: The official story of British farming, 1939–1944* written by Laurie Lee for the Ministry of Information in 1945.

<sup>35</sup> Lady Denman, 'The Women's Land Army', in W. Hutchinson (ed.), *Hutchinson's pictorial history of the War. A complete and authentic record in text and pictures*

(1940), p. 51.

<sup>36</sup> See in particular Dunbar's painting of 'A Land Girl and the bail bull', Tate Liverpool and 'A 1944 pastoral: Land Girls pruning at East Malling', Manchester Art Gallery. And see G. Clarke, *Evelyn Dunbar, war and country* (2006).

remembered as being 'a stern, strict lady of whom it was said that any girl learning to milk, and found to have long finger nails would have said nails hacked off with a pen knife by her'.<sup>37</sup> During training a volunteer received 10s. a week less National Health and Unemployment Insurance contributions.

The increasing wartime mechanization meant that women were required to take on jobs that hitherto had been considered beyond their capabilities. 'The idea of girls operating new modern machinery like tractors was quite revolutionary and newsworthy'.<sup>38</sup> Training at the tractor school at the local farm in 1942 in the West Riding of Yorkshire lasted for two or three weeks where, apart from driving, a Land Girl was introduced 'to some implements and tractor engines – standard Fordsons. [They] were then allocated to depots in villages where implements and tractors were stored and a forewoman was in charge. Occasionally one could be "loaned" to a different depot'.<sup>39</sup> Some Land Girls were trained at the Henry Ford Institute of Agricultural Engineering. However, one of the problems with the standard Fordson was that it had to be started manually by turning a starting handle, which proved physically demanding for Land Girls. Specialist tractor driving units were set up due to the increasing demand for greater food production and Land Girls were urged to 'study the makers' handbook, look over the nuts and bolts regularly, attend to lubrication, water and oil levels, and be able to supply clean fuel'.<sup>40</sup>

Later on, Land Girls were able to take more specialized courses such as thatching and pest control. Further, members who had over one year's good service were able to take Proficiency Tests in the various branches of land work and correspondence courses in agriculture.<sup>41</sup> These tests were both oral and practical. Additionally, there were special courses for those who were forewomen in charge of groups of women. These courses involved lectures on agriculture, first aid, income tax, completing time sheets, leisure and recreation, social hygiene (i.e. venereal disease) and leadership. Practical operations were to be taught by a full-time ex-bailiff instructor and included hoeing and singling mangolds and setting gangs to work; haymaking and rick building and thatching; using a brake; grooming and harnessing a horse. Machinery was seen at work and explained.<sup>42</sup> 'Being a forewoman was not easy work. We often worked longer than the girls did, as, when we had finished our day's work there were still records to be kept and telephone calls made to farmers'.<sup>43</sup>

<sup>37</sup> Joan Culver (née Laker, joined Mar. 1943 aged 17, left 1950).

<sup>38</sup> B. Powell and N. Westacott, *The Women's Land Army, 1939–1950* (1997), p. 43.

<sup>39</sup> Dora Varley (née Watson, joined in June 1942 aged 20 and left in Jan. 1946).

<sup>40</sup> Shewell-Cooper, *Land Girl*, p. 70.

<sup>41</sup> Sackville-West, *Women's Land Army*, p. 94, records that in 1943 1275 took the Agriculture Correspondence

Course and 630 the Horticultural Course.

<sup>42</sup> *Ibid.*, App. 7, 'A typical forewoman's course. Synopsis of lectures', pp. 101–2.

<sup>43</sup> Margaret Franklin (née Turner), joined 13 July 1942 aged 24, and was invalided out on 13 Sept. 1945 having broken her neck when another Land Girl lost control of the vehicle in which they were travelling. They 'careered down a very steep hill ... [and] turned nose-over tail three times'.

## IV

Although Land Girls were supposedly 'Lending a hand on the land' they were initially viewed with much suspicion and hostility by farmers and labourers, many of whom doubted that they could cope with the rigors of heavy outdoor work. Thus in many cases they were at best seen as something of a risk and a necessary evil. H.E. Bates, writing in his regular column on 'Country Life' in the *Spectator*, described the conservatism and prejudice of the English farmer, pointing out that 'He has a very deep suspicion of imported female labour ... He prefers one man to half a dozen women.'<sup>44</sup> Murray argues that this conservatism and prejudice was largely overcome during the first year of the War for two main reasons, first the positive experiences of the farmers who employed them and secondly, their inability to find male workers at a time of increasing work.<sup>45</sup> With regard to the former point Lady Denman made it known that:

Farmers are beginning to send excellent accounts of the girls they are employing ... The volunteers have had a good deal to put up with and their welcome has not been very warm. Theirs has frequently been a disheartening experience for girls who have sacrificed home-life, and in many cases good posts sacrificed to give service on the land.<sup>46</sup>

What took longer to overcome was the way that Land Girls continued to be the butt of jokes and caricatures within the press. Indeed, they were frequently not presented in a favourable light nor taken particularly seriously, rather being portrayed with something of a comic air about them. It is worth noting in connection with this that S. Evelyn Thomas compiled a book entitled *Laughs around the Land* which was replete with jokes about Land Girls, taken from for example *Punch*, the *Daily Express*, the *Manchester Dispatch*, *Men Only*, the *Aberdeen Press*, and the *New Yorker*.<sup>47</sup>

The work undertaken by the Land Girls was usually monotonous and the hours long, the norm in theory being 48 in the winter and 50 in the summer. The dreary nature of the work was recalled by a long-serving Land Girl who said 'most of the time was spent doing daily tasks, and the only variations came with the weather and the seasons'.<sup>48</sup> Another revealed that in her naivety she

applied to join the WRENS having grown somewhat listless with endless farm work, but of course was politely told the war effort might falter if people changed their job.<sup>49</sup>

The hours were often longer still during harvest time and, given the nature of the work, there were few opportunities to take leave. Indeed, 'Land girls [only] had seven days' official leave a year, compared with twenty-eight days for the real military'.<sup>50</sup>

Many of the Land Girls could not remember exactly what they were paid, but one remarked 'I know that in comparison with the armed forces it was very poor, and we got very little by

<sup>44</sup> H.E. Bates, 'Women's Land Army', *Spectator*, 12 July 1940.

<sup>45</sup> Murray, *Agriculture*, p. 126.

<sup>46</sup> Denman, 'Women's Land Army', p. 51.

<sup>47</sup> S. Evelyn Thomas, *Laughs around the land* (nd, but c. 1940s).

<sup>48</sup> Edith Barford served in the WLA throughout the war years and did not leave until Oct. 1947.

<sup>49</sup> Pauline Gladwell (née Clark, joined c.1940 aged 19, and left in 1945).

<sup>50</sup> Calder, *The people's war*, p. 428.

way of travel vouchers'.<sup>51</sup> In 1943 the minimum gross wage for those aged 18 or over was 38s., and for those aged 17 and 18 years 32s. for a 48-hour working week if billeted off a farm. The pay was inferior to that earned by women in factories, although 'women did relatively best in the buses and the railways – their average wage in those industries was over four pounds at the end of the War ...'.<sup>52</sup>

The largest employers of Land Girls were the County War Agricultural Executive Committees who organized gangs to work locally. For most, threshing was their main task for eight months of the year. By 1944 Kent employed nearly 400 Land Girls in threshing. Before the beginning of each threshing season a one-day school for the instruction of gang leaders was held wherein the importance of the corn harvest and the agricultural effort generally was stressed followed by advice on safety matters.<sup>53</sup>

Employing girls to do this work was vital for the war effort. It was physically demanding and involved working in dirty and dusty conditions. Land Girls in threshing gangs were usually employed in the task of cutting the bands, the strings around sheaves, before the sheaf was fed into the top of the threshing drum. This was less physically demanding but considerably more dangerous than other tasks on the threshing team. Not all WLA recruits coped with the work and some of the girls from the North who had been sent south to work in threshing gangs became homesick and simply returned home.<sup>54</sup>

The chief demand however was for milkers, tractor drivers and general farm workers. The decline in milk production caused grave concern and on 27 February 1942 the Minister of Agriculture, in a speech in Exeter, stated that 'The men in the fighting line and in the factories and the women and children need every drop of milk you can produce. It may mean life or death. Every gallon counts'.<sup>55</sup> Certainly milking was an exacting job, but according to Sackville-West it was a job that many Land Girls excelled at, and by September 1943 more than 20,000 Land Girls, or more than a quarter of the WLA, were employed milking.<sup>56</sup>

Land Girls working in battle zones along the south and east coast were often subjected to danger – some were supplied with tin hats – but for most their only shelter from raids and machine guns was to dive for the nearest ditch. During the Battle of Britain 'the girls of the Sussex WLA carried on with all kinds of outdoor work, with the "aerial navies battling in the blue" just overhead ... and the same countryside being pitted with bomb craters around them'.<sup>57</sup> The work of those employed in 'Front Line Kent' was hazardous: those working on the cliffs of Dover were within sight of enemy-occupied France and within the range of German coastal guns. *The Times* reported that 'Miss Beatrice Lark, forewoman on a farm near Dover for 12 months in spite of bombing and shelling, has received the Land Girls' Badge of Courage'.<sup>58</sup>

Increasingly prisoners of war (POWs) were employed on the land and at one stage there

<sup>51</sup> Theresa Porter joined the WLA in 1941 aged 17, and was discharged in 1944 after she developed 'a very bad skin infection on [her] hands, which [she] probably got while gathering potatoes'.

<sup>52</sup> Calder, *The people's war*, p. 402

<sup>53</sup> P.W.Cox, 'Front-line farming: Kent's war-time effort', *AJMA*, 51 (1944), p. 120.

<sup>54</sup> Calder, *The people's war*, p. 428.

<sup>55</sup> cited in Murray, *Agriculture*, p. 265.

<sup>56</sup> Sackville-West, *Women's Land Army*, p. 31.

<sup>57</sup> W.V.Cook, "'Green Cinderellas" of West Sussex', *Sussex County Magazine*, 19 (1945), p. 242.

<sup>58</sup> *The Times*, 5 Oct. 1942, p. 2.

were over 100,000 working in the countryside.<sup>59</sup> The influx of Italian POWs led to an article by a *Daily Mail* reporter headlined 'LAND GIRL CODE', the subtitle of which read 'Don't be Friendly with Italians.' The content of the article related particularly to new young recruits of 17 and 18 who would have to work in the fields side by side with Italian prisoners. These concerns were similar to those raised in the First World War which were also largely unfounded.<sup>60</sup> Lady Denman was quoted in the *Daily Mail* as saying 'no incidents of "over friendliness" had been reported ...' However, she acknowledged that some of the new recruits would need guidance on the attitude they were to adopt. The guidance offered laid down that girls should be courteous but not over-friendly. Many Land Girls felt that the German POWs were 'good' workers whereas in general they found the Italians to be lazy. As one commented, the Italians 'left us to do the heavy work. We found we could lift and carry 17 stone sacks of corn and chaff from the machine and hoist them onto lorries with no trouble at all once we were used to it.'<sup>61</sup> Another Land Girl who worked with both Germans and Italians potato picking remembered how 'I went round with the horse and cart picking up sacks as they were filled ... the Germans were particularly efficient and helpful.'<sup>62</sup> The well-known farmer and author A. G. Street commented in *Farmers Weekly* that 'from the little I have seen of the work of the German POW to date, he seems to be worth three average Italians; since the way in which many of the latter cycle and laze around the countryside is little short of offensive.'<sup>63</sup> They were also to be joined by other workers including displaced persons, conscientious objectors, evacuees, holiday workers and school children. Soldiers on leave were particularly to be found working on the land at harvest time.

## V

Evaluating the contribution of the WLA to the war effort is problematic. The official statistics provide a rather rudimentary account of the size of the agricultural workforce and the number of WLA employed at one time. Further, the type of work they were undertaking cannot be established precisely. Nevertheless, a valuable insight into their contribution can be gleaned from work undertaken by the agricultural economist H. T. Williams. His analysis of the relative efficiency of the different types of labour suggested that a woman, including members of the Land Army, carried out about two thirds of the work undertaken by a full-time regular adult male worker. This conversion ratio was based on the relative earning of the different sources of labour. It 'assumes that rates of earning per week reflect both the value and amount of work done by the different classes in a given time actually spent at work and also variations in the total hours worked.'<sup>64</sup> This was a dubious assumption, as Williams acknowledged that there would 'be a tendency to use substitute labour on work where they would be least disadvantaged

<sup>59</sup> Murray, *Agriculture*, p. 159. See also the chapter by Richard Moore-Colyer in this volume.

<sup>60</sup> In the First World War concerns of this type were raised principally by Mary Broadhurst who held an influential administrative position. *ODNB*, 'Broadhurst, Mary Adelaide'.

<sup>61</sup> Elsie Cowley (née Ward, joined Aug. 1942 aged 17 and left at the end of the War).

<sup>62</sup> Kathleen Lawson (née Hervey, joined Apr. 1943 aged 29, left Feb. 1948).

<sup>63</sup> A. G. Street, cited in S. Ward, *War in the countryside, 1939-45* (1988), p. 47.

<sup>64</sup> H. T. Williams, 'Changes in the productivity of labour in British agriculture', *J. Agricultural Economics Society* 10 (1954), p. 333.

TABLE 8.3. Average work output of women engaged in agriculture  
(where output of an adult male = 100).

Milking	91
Planting (setting) potatoes	95
Lifting, picking	91
Threshing cutting bands	91
Turning hay	92

Source: J.H. Smith, 'Work output capacity of women employed in agriculture', *Welsh J. Agriculture* 17 (1941), p. 53.

compared with experienced agricultural workers.<sup>65</sup> More detailed earlier statistical research by J.H. Smith reveals that the work output of women was, in some tasks, considerably higher than Williams's figure (Table 8.3).

While Smith's analysis deals with the contribution of women in general and not necessarily those who were members of the WLA, it would seem reasonable to conclude that the productivity of experienced members of the WLA was probably on a par with that of other women employees.

Moreover, the WLA had the advantage over most other types of additional labour in that they consisted almost exclusively of young, physically fit individuals who had been selected for their suitability for outdoor work. Approximately two thirds of the girls were permanently directed to work on specific farms, being billeted with the farmer. Most of the remainder were billeted as groups in hostels and worked in gangs, being sent to farms on a day-to-day basis as and when they were required. Those used in gangs were often seconded to work on particular farms when the work overwhelmed the depleted regular workforce. Their contribution to working in threshing gangs, as well as other labour intensive activities such as hoeing and singling root crops and hay making proved, for many farmers, to be invaluable. Under these circumstances members of the WLA provided a valuable, flexible source of labour which could be readily moved from one farm to another. Unlike prisoners of war they did not need soldiers to guard them. WLA members were considered a more flexible source of additional labour than POWs.<sup>66</sup>

The Land Girls often had little time or perhaps, more importantly, little energy for leisure time activities. Furthermore, for those living in spartan billets or on remote farms, these issues were compounded as, often, they had no transport to travel to the nearest village for the local dance or cinema. Those living in hostels, as did approximately a third of all Land Girls, had the benefit of companionship, but there were strict rules about personal conduct. One Land Girl recollected how she and another Land Girl were punished after they missed the bus back to their hostel:

We phoned the Warden and explained, and were told to go to the Police Station, which we did and it was lovely, they gave us a bed for the night and even breakfast next morning. As

<sup>65</sup> Ibid., p. 333. See also J.F. Martin, 'The impact of government intervention on agricultural productivity in England and Wales, 1939-45' (unpublished PhD thesis,

University of Reading, 1992).

<sup>66</sup> Williams, 'Changes in the productivity of labour', p. 333.



we were told to be back in time for work the next day (7 a.m.), the only way was to hitch a lift back in an American truck. For our crime we were not allowed out at weekends and evenings for a fortnight. Then we were sent to see a Rep (the first and only one we ever saw) who told us we were being moved to a remote hostel out in the wilds away from all our friends and all because we missed a bus!<sup>67</sup>

Boosting morale was one of the main reasons for the launching of the mid-monthly *Land Girl* magazine on 1 April 1940. It was designed to disseminate information, portraying it in a favourable light where necessary, although war imposed restrictions on the content. Its object was to act as a 'connecting link between the scattered members and to increase their sense of belonging to one force'.<sup>68</sup> Its circulation was said to be 21,000, although many of the members of the WLA who have assisted in my research appear not to have received a copy on a regular basis. In 1942 the Ministry of Agriculture agreed to fund *Land Girl* as it was seen to be so influential. It ceased production in 1947 when it was replaced by *Land Army News* which continued until December 1950.

## VI

Before a Land Girl was allowed to leave the WLA, a release certificate had to be obtained. The principle which governed this was one of first in, first out. Not only were Land Girls denied many of the privileges of the armed forces during the War, but there was much dissatisfaction in 1945 when it was realised that Land Girls were to receive no monetary gratuity or de-mob clothing, unlike women in the other services. Lady Denman, in her letter of resignation, wrote:

The Land Army is a uniformed service recruited on a national basis by a Government department and the work which its members have undertaken, often at considerable financial sacrifice, is in my view as arduous and exacting as any branch of women's war work and of as great importance to this country. Yet they have been refused post war benefits and privileges accorded to other uniformed and nationally organized services.<sup>69</sup>

There was a storm of protest. The Queen, as Patron of the Women's Land Army, made her views known and the Government was eventually forced to compromise. Resettlement grants of £150 were agreed, and £15,000 promised to the Land Army Benevolent Fund. The Women's Land Army was finally disbanded from November 1950 and numerous parades and rallies were held in every county and in London at Westminster Abbey. The final parade was at Buckingham Palace on 21 October when the Queen addressed 800 women:

The story of the Land Army has been one of a great response by the women of our country to the call of duty in the nation's hour of danger and need ... By their hard work and patient endurance they earned a noble share in the immense effort which carried our country to victory.<sup>70</sup>

<sup>67</sup> E. Cowley (see note 61).

<sup>68</sup> *Information for Women's Land Army Representatives*, p. 10.

<sup>69</sup> Huxley, *Lady Denman*, p. 175.

<sup>70</sup> Speech by Her Majesty The Queen, at the Farewell Parade of the WLA, pr. in *AJMA* 57 (1950), p. 401.

Overall the WLA played a vital role in supplying the wartime labour needs of the agricultural sector. The arduous work of its members was central to the war effort on the home front and the winning of the battle of the fields. Their efforts contributed to the net increase in agricultural output and thereby the reduction in imported foods and feeding stuffs. It is imperative that the diversity of experiences of those in the WLA, as well as the effects of prejudice and discrimination of officialdom are acknowledged, for respect and recognition of their achievements did not in many cases come easy. The WLA was considerably more than an iconic image and clearly justified its formation, for as Inez Jenkins remarked in December 1950: 'Britain owes a debt to its army of girls in green jerseys.'<sup>71</sup>

<sup>71</sup> Jenkins, 'They served the land', p. 407.

# Prisoners of war and the struggle for food production, 1939–49

by Richard Moore-Colyer

## *Abstract*

This chapter examines the role of prisoners of war in agriculture during the War and in the immediate post-war years. It was not until 1941 that the supply of prisoners of war was sufficient to make a significant impact on food production. Their use in agriculture raised critical issues of safety, security and accommodation. Comment in *Farmers Weekly*, national newspapers and the National Archives at Kew is used to explore different perceptions of the Italian and German prisoners of war. Particular attention is paid to the years immediately after the War and debates over the use of prisoner of war labour as opposed to farm workers.

The extraordinary success of the Ministry of Agriculture and its County War Agricultural Executive Committees in overcoming the critical problem of labour supply to farming during the years of World War II was one of the major logistical, administrative and propaganda successes of Home Front operations. As younger men entered the armed services and others, attracted by higher wages and better working conditions, left the land to join the thousands of labourers engaged in building the army camps, aerodromes and other military institutions under construction, labour on the land became largely the province of the Women's Land Army (WLA), the off-duty Home Forces soldier, the conscientious objector, the alien internee, the urban volunteer, the secondary schoolboy and eventually, the prisoner of war.<sup>1</sup> In the early months of the 'Phoney War', however, so acute was the hangover of pre-war unemployment that neither the War Cabinet nor the Ministry of Labour foresaw any immediate need for alarm although in the anticipation of declining labour supply as the War progressed, departments were advised to develop contingency plans which included the potential employment of prisoners of war (POWs).<sup>2</sup> Given its ambitious schemes for reclamation and drainage work (thereby to expand the available arable acreage) the Ministry of Agriculture argued strenuously throughout 1940 for prisoner labour to be engaged as soon as sufficient numbers became available, the Minister himself expressing his worries in a series of anxious communications with the Minister of War.<sup>3</sup> Powerful though his arguments may have been, R.S.Hudson was hardly likely to make much progress when a mere 46 Italian POWs languished in Britain by December 1940. The following

<sup>1</sup> For references and further details see R.J.Moore-Colyer, 'Kids in the corn: school harvest camps and farm labour supply in England and Wales, 1940–1950',

*AgHR* 52 (2004), pp.183–206.

<sup>2</sup> TNA, MAF 47/54.

<sup>3</sup> TNA, MAF 47/54.

year, however, the situation altered entirely thanks to General Wavell's success in North Africa which yielded 177,937 Italian and 66,010 'native' prisoners whom it was necessary to remove from the immediate theatre of war.<sup>4</sup> Strictly speaking, to shift prisoners from the theatre in which they had been captured was to flout the Geneva Convention. On the other hand, the general staff of Middle East Command took the view that since it was virtually impossible to hold these people locally in anything approaching decent conditions, the sooner they were removed to various parts of the British Empire, the better.<sup>5</sup> This being the case the War Cabinet decided in June that 28,000 Italians would be despatched to Britain in monthly groups of 5000 as and when shipping became available, and Middle East Command was instructed to select men 'of peasant type' who might be suited to work on farms in Britain.<sup>6</sup>

The Ministry of Agriculture was delighted and unsparing in its efforts to stake a claim for the services of as many prisoners as possible and to retain them against the demands of other departments. Indeed, as the War went on, Hudson and his officials struggled constantly to keep hold of their prisoners since the War Office, the body ultimately responsible for POWs, periodically attempted to withdraw them from the land to help with camp construction and various industrial projects. To this end CWAECs were urged to ensure that Italians were only employed on the heaviest work and not engaged in tasks which could be undertaken by women and children. If, it was argued, War Office officials discovered Italian prisoners working on the more congenial farm jobs, the Ministry's struggle to secure more prisoner labour would be prejudiced.<sup>7</sup> Inevitably (and particularly in the early, tense years of the War) the Ministry of Agriculture, the War Office and the Directorate of Prisoners of War found plenty about which to disagree. There were two principal areas of contention, both concerned with security issues. The Ministry took the view that prisoners might be optimally used if spread over a wide area of the country, while the War Office and the Directorate argued on security grounds that they should be concentrated in camps of at least 500 men where they could be effectively guarded and supervised.<sup>8</sup> Besides, the War Office argued that no prisoners should be located in areas of military security – in effect much of eastern and south-eastern England. In addition, they should be under total military supervision and, to facilitate guarding, should not work in groups of more than twenty to thirty men. Although War Office attitudes softened as it became clear that most Italian NCOs and other ranks were of a peaceable disposition, their quite reasonable worries over security matters before 1943 created considerable logistical difficulties for the Ministry of Agriculture. Typically, when the Ministry requested that camps for prisoners be established in locations such as Dunchurch in Warwickshire and Glan Morfa, Anglesey, where major drainage projects had been proposed, the War Office objected on operational and security grounds.<sup>9</sup>

<sup>4</sup> *PD Commons*, 372, 18 June 1941, col. 672; 376, 18 Dec. 1941, col. 2077.

<sup>5</sup> Of the belligerent powers Britain was less guilty than any other of violating international law in her treatment of prisoners of war. The Geneva Convention was, after all, extensively flouted by the Germans and not even ratified by the Japanese who regarded the status of the prisoner as contemptible and despicable

(I.D. Pautsch, 'Prisoners of war and internees in the Second World War: a survey of some recent publications', *Cont. European Hist.* 12 (2003), p.227).

<sup>6</sup> TNA, WO 199/405.

<sup>7</sup> TNA, MAF 47/54.

<sup>8</sup> TNA, WO 199/406.

<sup>9</sup> TNA, MAF 47/54.

## I

As Home Force commanders pondered the War Office order to construct a series of hutted camps, each to accommodate 500 men, the first drafts of Italian prisoners from Middle East command arrived early in August 1941.<sup>10</sup> Located initially at holding camps in Yorkshire and Hampshire, the men were immediately inspected by A. Carr Williams, the Ministry of Labour's Labour Advisory Officer, whose report pronounced them to be of good physical type who, despite their ignorance of the English language and English farming methods, would probably work efficiently when subject to appropriate discipline.<sup>11</sup> As far as the British authorities were concerned, the maintenance of discipline and observance of the Geneva Convention was all-important. If prisoners were to work effectively, such issues as rations, rates of pay and bonuses were not to deviate from the requirements of the Convention, while the Convention's proscription against the employment of officers was to be strictly followed. In reality, very few officers were shipped to Britain on the grounds that they were more liable than other ranks to cause trouble and in any case they would, in effect, be so many unproductive mouths to feed. It was, of course, in Britain's interest to treat her prisoners of war with due compassion if they were eventually to become fully-integrated into the war economy. This apart, anything but humane and fair treatment might well have grave implications for British prisoners in Italian or German hands.<sup>12</sup> The available evidence indicates that both the War Office and Ministry of Agriculture ensured that prisoners received the prescribed wages of  $\frac{3}{4}d.$  per hour for unskilled and  $1\frac{1}{2}d.$  per hour for skilled labour up to a daily maximum of  $6d.$  or  $1s.$ <sup>13</sup> Moreover, in the face of public hostility and the opposition of the Ministry of Food and War Office, Ministry of Agriculture officials tended to turn a blind eye to farmers who, quite illegally, gave a little extra food to Italian gangs in their employment. After all, as one official put it, '... there is not likely to be much fuss about it as long as it is done without publicity.'<sup>14</sup> The War Office was quick to deny the 'highly-coloured' reports that Italian prisoners were being over-generously fed, but a myth persisted among a strictly-rationed public and a hard-pressed farm labour force that the Italians were not only better fed, but better clothed than the former.<sup>15</sup> Farm workers were particularly irritated by the fact that Italian prisoners employed on drainage projects were supplied with rubber boots while they, the permanent farm staff, could only secure boots after a lengthy and tortuous process of application.<sup>16</sup> The WLA complained along similar lines adding, for good measure, that while Italian gang workers were given their dinner under cover they had to eat their sandwiches 'in the cold and wet'.<sup>17</sup>

As the labour situation grew critical, Hudson's demand for Italian prisoners became ever more desperate. Shortage of shipping and camp accommodation had meant that by the end of 1941 only 9000 Italians were at work in Britain, 2015 of them building camps against future arrivals and 4700 working in agriculture.<sup>18</sup> Hudson sought an additional 10,000 men in 1942 to offset losses of British farm workers to the armed forces, and a further 36,000 the following year

<sup>10</sup> TNA, WO 199/405.

<sup>11</sup> TNA, MAF 47/54.

<sup>12</sup> TNA, WO 199/409.

<sup>13</sup> *PD Commons*, 377, 10 Feb. 1942, col. 552.

<sup>14</sup> TNA, MAF 47/54.

<sup>15</sup> *FW*, 23 June 1942; S. Ward, *War in the countryside, 1939-45* (1988), pp. 46-7.

<sup>16</sup> *PD Commons*, 386, 26 Jan. 1943, col. 373-4.

<sup>17</sup> *FW*, 22 Dec. 1944.

<sup>18</sup> *PD Commons*, 376, 17 Dec. 1941, col. 1932.

when Women's Land Army recruitment was suspended in the light of demand for female workers in the munitions and aircraft industries.<sup>19</sup> The British Empire held no less than 274,000 Italian prisoners at the close of 1943, yet the complex logistics of shipping meant that only 74,900 of these had arrived in Britain, many having been drafted to non-agricultural activities. With the change in Italy's status following the 1943 armistice, pressures on shipping were greatly eased and by 1945 some 158,000 Italians were located in Britain, of whom 97 per cent were meaningfully employed, 52,400 of them working the country's farmlands.<sup>20</sup> These men were located in camps and hostels in all corners of Britain; from St Columb in Cornwall to Ashford in Kent and from Dingwall near Inverness to Lamb Holm on the Orkney Islands.<sup>21</sup>

Accommodation was also required for Vichy French prisoners, Poles, Russians and refugees, so the matter of housing the Italians was one of compelling urgency. In 1940 camps to hold 14,000 prisoners had been built, while capacity was expanded to 44,000 by 1943 and 75,000 by the close of 1944. In reality, an overcrowding factor of some 20 per cent, against Red Cross maxima (rendered necessary by the need to house the 45,000 German prisoners captured in 1944) gave a capacity of some 90,000 by the end of that year, mostly in hutted accommodation in 120 camps.<sup>22</sup> For all the lengthy inter-Departmental correspondence over security, few Italians seemed inclined to escape and, in any case, those who did so were normally promptly recaptured. Given that the Italians seemed of a generally biddable and pacific nature, the Ministry of Agriculture, worried over the considerable manpower cost of guarding labour gangs, tentatively suggested to the Security Executive that carefully-screened prisoners might be housed in 'satellite' hostels adjacent to the camps and sent out to farms each day without armed escort. The War Office had some reservations about the proposal on the grounds that Fascist prisoners '... might give trouble when they heard news of enemy success', but they were anxious to co-operate in the drive for food production and agreed that the Ministry's idea be tried on an experimental basis at ten locations. They insisted, nevertheless, that prisoners were regularly inspected during the day and guarded at night by an NCO and armed platoon, concurrently refusing to accept responsibility for any escapes or breakdown in security.<sup>23</sup> The scheme proved successful. By the end of 1942 pressure on the closely-guarded camps was relieved as increasing numbers of prisoners were located (in groups of sixty to seventy) either in requisitioned premises or structures purpose-built by the Ministry of Works. This was followed in 1945 by the construction of 33 new camps and 219 hostels along with substantial extensions to 15 existing camps.<sup>24</sup>

While small working groups were permitted to travel to work unescorted within a radius of seven miles of the hostel, larger gangs remained under armed escort, usually comprising military personnel of low medical category who would march with the prisoners or travel in their lorry cabins.<sup>25</sup> Escorts were issued by the War Office with carefully-drafted instructions

<sup>19</sup> Ibid., 19 Dec. 1941, col. 2261.

<sup>20</sup> Ibid., 418, 29 Jan. 1946, col. 170.

<sup>21</sup> B. Moore and K. Fedorowich, *The British Empire and Italian prisoners of war, 1940-1947* (2002), ch. 7. Moore and Fedorowich offer a great mass of detail which amplifies the outlines presented in this chapter.

<sup>22</sup> TNA, WO 199/408.

<sup>23</sup> TNA, WO 199/406. To some extent, the presence or absence of guards was a matter for negotiation between

the camp commandant and individual farmers. My father, who employed three Italian prisoners throughout 1943, managed to persuade the commandant of Boughton Camp in Northamptonshire to allow the men to work without military escorts.

<sup>24</sup> TNA, WO 199/407; MAF 47/54.

<sup>25</sup> TNA, HO 218/75. Smaller groups travelled to farms on bicycles, farmers being strictly instructed to impound the machines on arrival.





FIGURE 9.1. Italian prisoners of war being marched to fieldwork.

Source: MERL, *Farmers Weekly Picture Library*, P FW PH2/W13/21.

which enshrined the 'polite but firm' principle and both they and supervisory foremen were expected to keep the prisoners hard at work, to report defaulters to the Camp Commandant for punishment and, especially, to prevent any attempts at fraternization with civilians. It was also suggested, probably more in hope than expectation, that it would serve everyone's best interests if escorts were to master a few phrases of the Italian language.<sup>26</sup> To officials of the Ministry of Agriculture it seemed logical that in appropriate circumstances Italian prisoners who had proved amenable to hostel accommodation might be suitable candidates for on-farm billeting. There was, after all, no shortage of rooms in commodious farmhouses vacated by family members currently under arms, or of snug barns and granaries surplus to immediate agricultural requirements which might, with a little modification, be adapted to domestic use. Farmers themselves were generally enthusiastic since, with travelling time eliminated, they could reasonably anticipate a far more effective day's work from the 'living-in' prisoners than from men who arrived at the farm halfway through the morning and had to be back in their hostels before 'black-out'. The War Office raised few objections and in 1942 farmers were circulated with details of a billeting scheme which lay heavy emphasis on methods of payment and security issues.<sup>27</sup> Farmers interested in obtaining the services of one or more prisoners were expected to apply via their CWAEC whose officials would, in turn, liaise with local Ministry of Food representatives to secure the food coupons necessary to provision the

<sup>26</sup> TNA, MAF 47/54.

<sup>27</sup> TNA, MAF 47/54.

billetees.<sup>28</sup> Billetees were initially only permitted to live on farms within ten miles of a central camp. However the radius was extended to 25 miles in March 1943 when the decision was concurrently taken to allow farmers living in proximity of secure camps to collect groups of prisoners using their own transport provided they could guarantee to return them before 'black-out'.<sup>29</sup> In the latter case farmers paid the CWAEC 1s. per hour per prisoner whereas they could expect to pay 48s. weekly for billetees, deducting 21s. for each man's board and lodging.<sup>30</sup> The War Office was only too happy to give full support to the billeting scheme since this arrangement conveniently shifted the burden of responsibility of looking after prisoners from their camp commanders to the CWAECs. In any event progress was such that 4375 Italian prisoners were living on British farms by May 1943, in most cases in comfort and contentment.<sup>31</sup>

## II

Following the suspension of recruitment to the WLA in 1943, the role of POWs and civilian volunteers became ever more important in the quest to maintain Britain's food supplies. It was hardly surprising, then, that from a labour supply perspective the collapse of Italy in the late summer of 1943 caused some alarm in farming circles. Article 75 of the Geneva Convention, after all, declared unequivocally that the POWs of belligerent powers be returned to their own countries as soon as practically possible after the signing of peace.<sup>32</sup> If this were to be put into effect, and tens of thousands of key workers removed from the land, chaos would ensue.<sup>33</sup>

The potential difficulty was resolved after protracted discussions between the British military authorities, General Eisenhower and Marshal Badoglio's Italian administration when it was agreed that rather than Italian prisoners being immediately repatriated, they would remain in Britain in non-combatant employment in the war against Germany. The idea was for prisoners to be offered the chance to become 'co-operators' who would undertake a wide variety of civilian tasks in return for less restrictive conditions, greater freedom and more pay.<sup>34</sup> Invitations to co-operate, decided the Directorate of Prisoners of War, would be issued to all prisoners apart from known 'bad characters', the persistently sick and officers above the rank of major and an appropriate instruction was despatched to Home Forces officers in charge of POW camps. Prisoners were informed by camp commandants that in the wake of agreement to co-operate would follow a variety of privileges including greater freedom to fraternize, the ability to remit money to Italy, and licence to go to shops and cinemas (but not pubs, restaurants or dance-halls). At the same time military personnel were strictly forbidden from making any public statement about the changed status of what were to become known as 'Italian Labour Battalions' since to do so might have caused embarrassment to the new Italian government and the sensitivities of the Italian people.<sup>35</sup> With Italy and Great Britain now co-belligerents, it was officially anticipated that if Italian workers could be convinced that their labour would contribute to the

<sup>28</sup> TNA, WO 199/406.

<sup>29</sup> FW, 26 Mar. 1943.

<sup>30</sup> FW, 9 June 1942.

<sup>31</sup> TNA, MAF 47/54.

<sup>32</sup> FW, 17 Sept. 1943.

<sup>33</sup> *The Times*, 13 Oct. 1943.

<sup>34</sup> K. Fedorowich and B. Moore, 'Cobelligerency and prisoners of war: Britain and Italy, 1943-45', *International History Rev.* 18 (1996), pp. 36-44.

<sup>35</sup> TNA, MAF 47/54.

common European good, motivation to put in a decent day's work would improve.<sup>36</sup> Indeed, with 66,000 Italians employed in industry and 52,400 on farms by the end of 1944 (some 75 per cent of them as 'co-operators') there was every reason to expect a general improvement both in work efficiency and morale.<sup>37</sup> Yet there remained persistent complaints of Italian idleness and incompetence especially among the more splenetic correspondents to *The Times*. In April 1944 a Colonel W.M. Campbell of Hunstanton deplored the fact that as British seamen risked their lives taking food to Italy, here were these thousands of Italian prisoners doing 'by ordinary Englishman's standards, one hour's work a week'. How long, fulminated the choleric colonel, must this scandal continue?<sup>38</sup>

Campbell represented a much wider strand of feeling. The victors themselves, or at least those of them on the home front, were generally unequivocal in their views of the Italians who were conceived of as shiftless and dilatory, a sensual and excitable race whose enthusiasm for work closely paralleled their enthusiasm and stomach for fighting. They were lacking, it was believed, in any notion of 'team spirit' and, moreover, would only work effectively under the 'rigorous oversight' of a competent foreman or strict armed guard.<sup>39</sup> A close reading of the National Archives files suggests that this was to all intents and purposes the official standpoint although when the Secretary of State for War, Sir James Grigg, was asked to comment in Parliament on the relative qualities of Italian and German prisoners as land workers, he declared that while he had a view, '... wild horses would not drag it from me'.<sup>40</sup>

Inevitably, with such a large labour force distributed across the country, the quality of work and degree of co-operation was likely to be variable and to some extent would reflect the assiduousness with which escorts and guards approached their duties. In practice most guards and gang supervisors were from the auxiliary services and in many cases lacked the ability, toughness and motivation to help their charges at their labours. Concurrently there is some evidence that camp commandants, who were supposed to liaise with CWAECs in these matters, were from time-to-time rather dilatory in punishing prisoner-defaulters with the prescribed period of detention.<sup>41</sup> *Farmers Weekly*, which employed four Italian prisoners billeted on its newly-acquired farm near Tring, found both their work and their attitude to be excellent. Yet, like others, the Editor pondered how it might be possible to motivate the gangs of Italians many of whom continued, even after the autumn of 1943, to work under guard on reclamation and drainage projects.<sup>42</sup> There remained throughout the War no shortage of correspondents to the press to find fault with Italian prisoner-labour. From Cupar in Fife to Sudbury in Suffolk writers to *The Times* and *Farmers Weekly* moaned splenetically of the 'comfortable' conditions enjoyed by the Italians. Surely, it was averred, there was little incentive for a hard day's physical labour when a man could enjoy the best of coffee and the choicest of cigarettes in the leisurely comfort of camp.<sup>43</sup> The Italians, it seemed to many, had everything their own way and when gangs scheduled to work at the Allscot sugar beet factory in Shropshire refused shift-work and thereby delayed the autumn harvesting campaign, there was widespread public hostility.<sup>44</sup> Rightly or

<sup>36</sup> *The Times*, 15 May 1944.

<sup>37</sup> *PD Commons*, 406, 6 Dec. 1944, col. 534-5.

<sup>38</sup> *The Times*, 20 Apr. 1944.

<sup>39</sup> *FW*, 9 Jan. 1942.

<sup>40</sup> *PD Commons*, 409, 20 Mar. 1945, col. 627.

<sup>41</sup> *FW*, 24 June 1942.

<sup>42</sup> *FW*, 22 Feb. 1946

<sup>43</sup> *FW*, 10 Mar. 1944; *The Times*, 4 May 1944.

<sup>44</sup> *FW*, 10 Nov. 1944.

wrongly, resentful civilians widely believed that the Italians enjoyed many privileges denied to the man-in-the-street. The use of bicycles is a case in point. During the early spring of 1943, the MP for Grantham was bombarded with complaints from his constituents over what they saw as the iniquitous scandal of unescorted Italian prisoners riding to work when they, the worthy denizens of Lincolnshire, were unable to buy bicycles due to wartime austerities. Caught on the back foot, the War Office hurriedly responded by pointing out that shortage of petrol precluded taking the men to work by lorry while shortage of manpower meant that groups of only 13 or more were escorted. Invoking a nice legal point, the War Office tried to assuage its critics by explaining publicly that whereas *civilian* aliens were not permitted to cycle without Home Office permission in accordance with the Aliens (Movement Restriction) Order, prisoners of war came under military control and were accordingly subject to different authority. In any case, cycling from camp to farm saved time and so improved working efficiency.<sup>45</sup>

If the alleged comfort and convenience of Italian prisoners raised some public hackles, their supposed idleness was also cause for comment. An outraged Lord Somerleyton vented his spleen to the East Suffolk County Agricultural Committee shortly after he had observed a labour gang of 30 Italians who, he claimed, managed to do the work of two boys in the course of a day. 'These prisoners', he thundered, 'spend their time on setting snares and talking to children on the green or go on strike for another blanket, so that they have more than our own men at the front'.<sup>46</sup> In suggesting that the rations of idlers be curtailed, Somerleyton attracted a good deal of support, typically from a *Times* correspondent who noticed a party of 12 prisoners under the desultory supervision of an elderly guard enjoying relief from their ditching work with an afternoon's ferreting. 'A leisurely lunch cooked by two of the Italians was the main feature of their day, and the most noticeable feature of their visit to the farm was a heap of tins labelled "pork and beans". The regular workers on the farm who have to be content with a bread and cheese lunch were not pleased to discover this'.<sup>47</sup> The understandable civilian resentment of what was perceived to be favourable treatment and a slack attitude towards discipline among Italian work groups was compounded by a widespread belief that bribery and the offering of incentives was the only effective way of keeping the prisoners at work. Strictly speaking, the Prisoners of War (Access and Communications) Order of 1940 expressly forbade the giving of any form of inducement for fear of establishing an escalating cycle of bribery. This, however, was widely ignored, and to the chagrin of the authorities Italian prisoners enjoyed regular gifts of chocolates, cigarettes and food. On the rare occasions when individuals were prosecuted it was invariably argued by defendants that without incentives the Italians just would not work. William Greensit, a Yorkshire farmer brought before the Bench under the Order, explained to the magistrates that when confronted with the prospect of harvesting 20 acres of potatoes, his Italians had bluntly told him, 'Boss, no cigs, no coffee, no work'.<sup>48</sup> What was a man to do? The potatoes had to be harvested, prisoners were the only available labour source and if incentives were necessary, so be it. An Ely farmer took much the same view. Prosecuted for over-generously tipping Italian potato pickers and, critically, giving them sterling as opposed to camp 'token money', he argued that had he not

<sup>45</sup> *The Times*, 19 Apr. 1943.

<sup>46</sup> *FW*, 15 Dec. 1944.

<sup>47</sup> *The Times*, 14 May 1945.

<sup>48</sup> *FW*, 12 Jan. 1945.





FIGURE 9.2. Italian prisoners of war loading barley, 1945.

'No happier crowd of workmen could be found anywhere in England, than the Italian prisoners of war at work in a barley field in the Home Counties. They sing while they work, while the farmer who owns the place, looks on approvingly. Some of the Italians are skilled workers. The only trouble is they can't speak English' (Topical Press). Source: MERL, *Farmers Weekly Picture Library*, P FW PH2/W13/21.

promised them some form of extra remuneration his potato crop would have remained in the ground.<sup>49</sup> Improper behaviour by civilian supervisors of prisoner work gangs could also result in proceedings under the 1940 Order. In February 1942 a group of Italian prisoners working at Weybridge were found by the police to be in possession of a variety of hardware goods which their supervisor had purchased on their behalf by selling a range of handmade articles (including basketware and ships-in-bottles) crafted by the Italians themselves. In addition the supervisor had illegally allowed the prisoners to carry sterling. Keen to make an example of the man, the War Office instructed the police to prosecute thereby to demonstrate to the public the vital importance, in the interests of national security, of giving no leeway to prisoners of war however amenable and companionable they may have appeared.<sup>50</sup>

From time to time War Office officials received disquieting reports from Home Front Command on a general level of public unease over gangs of working prisoners of war.<sup>51</sup> More especially the presence of numerous hot-blooded Mediterranean men seems to have worked a powerful magic on the female population. As restrictions on Italian prisoners were progressively

<sup>49</sup> TNA, MAF 47/54.

<sup>50</sup> TNA, MAF 47/54.

<sup>51</sup> TNA, WO 199/407.

relaxed after 1943 so did honest British menfolk express growing concern over the potential threat to the virtue of their maidens and matrons. So frightened, it was claimed, were Women's Land Army personnel in north Lincolnshire by the proximity of unguarded Italians that they temporarily downed tools at the beginning of the 1943 harvest.<sup>52</sup> Meanwhile the admirable ladies of Cumberland lay terrified in their beds and were chary of venturing outdoors after dark.<sup>53</sup> In Dorset the proposal to billet 150 Italian 'co-operators' in the town so alarmed the Shaftesbury Town Council that they protested vigorously to the War Office, claiming that several women had already been 'molested' in the streets by Italians in the area.<sup>54</sup> 'Molestation', of course, can take many forms, and it may well be that the stout burghers of Shaftesbury gave the term a rather graver gloss than merited by the events. Nevertheless the authorities took 'fraternization' with local females rather seriously: a nine-month prison sentence was given in 1946 by an Aldershot military court to one Italian who had had kissed a 15-year old girl without her consent. This case gave rise to a great deal of pious comment, much of it from middle-aged and elderly gentlemen. The myth of Italian sexuality (evoked later in Michael Radford's film, *Another Time, Another Place*, itself an allegory of imprisonment and liberation) probably provoked more by way of *frisson* than fear if a 1945 memorandum from the Home Office to the General Officer Commanding Home Forces is to be believed. Here, it was chastely and sternly revealed, the evidence offered in cases before military courts indicated that '... women have not only been extraordinarily willing participants in sexual intercourse, but in a number of cases have themselves revealed that they were the prime movers to this end'.<sup>55</sup> Cut off for years from wives, mistresses and lovers the men were sorely tempted, while the country women of England, restricted in many cases to a choice between infirm age and extreme youth, were probably not slow to grasp the main chance! To be tempted by passion is one thing; to be taunted by small boys quite another. Returning from work at Great Billing, near Northampton late in 1944, a group of Italian 'co-operators' were peaceably sitting in their lorry when a wretched boy who should have known better gave them the 'V' sign in its non-Churchillian form. Infuriated, several men jumped over the lorry tailgate and gave the boy his just deserts for which they were sentenced by a military court to a year's imprisonment with hard labour.<sup>56</sup>

### III

With the agreement to begin the repatriation of Italian prisoners after the 1945 harvest, there were widespread worries as to the future availability of agricultural labour.<sup>57</sup> Farmers were being warned to expect little help from the armed forces in the forthcoming season and that despite their requests for a rapid demobilization of agricultural workers, this source would provide the 'merest trickle' of labour. Moreover, as WLA membership declined, a sudden end to the War would more or less eliminate this element of the workforce, while the repatriation of thousands of Italian and German POWs could be anticipated.<sup>58</sup> As the Ministry of Agriculture appealed

<sup>52</sup> *The Times*, 26 July 1943.

<sup>53</sup> *FW*, 20 Feb. 1942. Yet Cumberland farmers appreciated the work of the 'cheerful, useful Italians' whom they considered more useful than 'half-trained' land girls incapable of heavy work.

<sup>54</sup> *The Times*, 8 Feb. 1945.

<sup>55</sup> TNA, HO 218/75.

<sup>56</sup> *PD Commons*, 410, 8 May 1945, col. 1835.

<sup>57</sup> TNA, MAF 47/54.

<sup>58</sup> *FW*, 9 Mar. 1945.



for volunteers, it impressed upon people that the War may have been drawing to a close, yet the urgent farm labour situation remained. By mid-June, however, a mere 50,000 volunteers had registered with the Ministry, of whom 38,000 were prepared to work between June and August, leaving only a small residue for the autumn.<sup>59</sup> Volunteer labour from this point was likely to prove insufficient and the National Farmers Union lobbied for the continued use of prisoners of war wherever possible. By the autumn of 1944 there were 95,000 German POWs in Britain and it became clear to the War Cabinet that despite earlier reservations, these men (with the exception of Luftwaffe, submarine personnel and ardent Nazis) should be employed on the land as soon as conveniently possible.<sup>60</sup> They would, it was proposed, take over accommodation vacated by Italians many of whom, prior to repatriation, were being withdrawn from the land to engage with urgent urban building work under the aegis of the Ministry of Works. Chief Constables and Home Force commanders expressed security concerns and insisted that Germans only be employed outside the London and eastern regions, while the Ministry of Information undertook to persuade a somewhat nervous public to accept German prisoner-workers as an essential part of the war effort. This would prove particularly important in Kent and Sussex where the intensity of Luftwaffe operations meant that unfavourable local reaction to German prisoners might have been anticipated.<sup>61</sup>

Throughout 1945 and 1946 German prisoners were shipped into Britain from Europe and the USA almost on a daily basis with a total of 210,851 arriving in the country between February and June 1946.<sup>62</sup> By the end of the year, of the 399,161 Germans held in the British Empire (leaving aside 118,000 captives of the British Army of the Rhine), 385,438 were in Britain, of whom a mere 13,000, primarily officers and protected personnel, were not engaged in some form of useful work. Indeed, since 32,422 prisoners listed their civilian occupations as 'farmer' or 'farm worker' they were put to the land more-or-less immediately. As non-agriculturists joined this experienced cohort, a total of 180,000 German prisoners were labouring on British farms by September 1946.<sup>63</sup> Initially housed in guarded camps wherein great care was taken to avoid violence by separating Nazi from non-Nazi, Germans were subject to much the same proscriptions as the Italians before them, while the public were warned against fraternization with German work gangs, offering incentives, and doing anything, '... which would encourage a person to misconduct himself'.<sup>64</sup> Potential friction between Germans and Italians was sidestepped by strict separation of working gangs, a policy applauded by farmers among whom it was widely held that a single German was worth 'a dozen Italians'.<sup>65</sup>

The decision to maximize German labour led to one of many wartime inter-Departmental wrangles, in this case, over the issue of pay and hours of work. The Ministry of Agriculture was keen to see prisoners working the same hours as farmers and their regular workers, but

<sup>59</sup> FW, 22 June 1945.

<sup>60</sup> TNA, WO 199/409; *PD Commons*, 403, 17 Oct. 1944, col. 2228.

<sup>61</sup> TNA, WO 199/408.

<sup>62</sup> *PD Commons*, 424, 2 July 1946, col. 267 (written answer).

<sup>63</sup> *PD Commons*, 425, 16 July 1946, col. 186 (written answer).

<sup>64</sup> TNA, HO 218/75.

<sup>65</sup> FW, 13 July 1945. An opinion shared by my father who employed Italian, Polish, Russian and German prisoners during the War. Three Germans, whose homes were in the Russian zone, remained on the farm until 1952, two of them returning to Britain to attend my father's funeral in 1994.

the War Office, with some justification, was worried about the security implications of groups of potentially hostile men being away from their camps after sunset. Accordingly, they insisted that German prisoners worked in the daylight for a maximum of 48 hours per week for which farmers would pay 1s. per hour, primarily to cover the cost of armed guards. Of this shilling, each prisoner would receive 5d.<sup>66</sup> Eventually a compromise was reached whereby the War Office permitted individual prisoners to undertake overtime with the consent of their camp commandant, in some cases allowing suitably vetted prisoners to work without guards.<sup>67</sup> From the outset it had been War Office policy to persuade German prisoners in the later stages of the War that the success of British agriculture would, given the prospect of post-war shortages, ultimately be in the interests of Germany as well as the rest of Europe. Besides, they were told, a decent report from employers would reap a harvest of extra cigarettes and rations, and moreover, the prospect of being billeted on a farm rather than being unceremoniously locked behind wire after each day's work.<sup>68</sup> Billeting was welcomed both by the prisoners themselves and by the War Office and the CWAECs, respectively under increasing pressure to provide guards and scarce transport facilities for German workers. Thus, midway through 1946 ever-increasing numbers of Germans were being billeted on farms, many of them remaining in post for several years after the War. Farmers were obliged to pay 70s. weekly for their billetees (with 23s. 6d. deducted for board and lodging) while 'daily workers' arriving from the camps were paid at an hourly rate ranging from 1s. 5½d. per hour during the week to 2s. 2d. per hour on Saturdays and Sundays. Meanwhile, those Germans remaining in the country after the official close of hostilities were given the right to repatriate funds to Germany, and the 16,000 men still working on British farms in 1948 were offered the opportunity of acquiring visas to enable their wives and dependants to join them.<sup>69</sup>

For some time after the War Conservative politicians had been accusing the new Labour government of using POWs to compensate for what the former saw as the abject failure of the government's attempt to persuade discharged soldiers to return to agriculture. Government training courses and other measures could do little to conceal the acute shortage of decent rural housing and amenities which served as a potent disincentive, and, in 1946, of 85,000 demobilized servicemen formerly employed on the land, only half expressed any interest in resuming their rurally-based careers.<sup>70</sup> Taken alongside the poor response to the new WLA recruiting scheme whereby girls were expected to sign up for a minimum of two years, this meant that for the time being, at least, German workers were virtually indispensable.<sup>71</sup>

<sup>66</sup> FW, 13 July 1945.

<sup>67</sup> FW, 19 May 1945. This pleased farmers since they no longer had to pay to feed the armed escort.

<sup>68</sup> PD Commons, 425, 9 July 1946, col. 47.

<sup>69</sup> TNA, HO 213/719. Three German prisoners worked for my father between late 1945 and 1949. Initially coming to the farm daily they were not only grateful for the work, but for the extra rations which my mother found for them (including rabbits and vegetables) to take back to the camp each day. This, of course, was strictly illegal. On Christmas Eve, 1945 they came to the farm as

billetees. Provided by the War Office with beds and a stove, they were housed in a granary before taking over a farm cottage early the next year. Here they lived happily for three years, regularly visiting (on foot) the local town of Corby and enjoying the company of the local girls. So effective was their work that my father '... had never had it so easy in his life' (information from Mrs C.J. Colyer, Northampton).

<sup>70</sup> *The Times*, 19 Apr., 27 May 1946.

<sup>71</sup> *The Times*, 27 May 1946.

With the announcement by Minister of Agriculture Tom Williams in the spring of 1946 that Germans with appropriate experience of farm work would receive the minimum agricultural wage, the National Union of Agricultural Workers stepped up its campaign against German employment.<sup>72</sup> The Union had long taken a somewhat equivocal view of prisoners of war working on the land. Aware of the national importance of securing sufficient labour for farming at appropriate seasons, they remained uneasy at what they saw as the threat of casualization which might arise from the employment of German prisoners. In 1945, they had struck a compromise with the Ministry of Agriculture by which prison labour would be removed from any farm where it could be proved to have displaced indigenous workers, either on a regular or piece-work basis, and they continued to insist that this compromise be maintained.<sup>73</sup> The NFU, meanwhile, keen to promote the establishment of a skilled workforce, and only too aware that many farm-workers resented being seen as on a par with foreigners with little experience of farm work, were supportive of the compromise and objected strongly to the declaration in 1946 that prisoner-workers would receive the minimum agricultural wage. As they continued to press for the rapid demobilization of former farm staff, they looked forward to the day when prisoners were no longer key figures in the labour force.<sup>74</sup> Officials though, saw things rather differently. Some regular farm staff had returned to farms in 1946, but nevertheless Tom Williams estimated that an extra 100,000 workers would be required over the next few years even after the various emergency programmes were closed down.<sup>75</sup> The WLA and the various volunteer harvest labour camps would continue to run for 'at least another year or two' while prisoners of war, European refugees and, in particular, the remnants of General Anders' Polish army currently awaiting resettlement in Britain, would all take part in the food production effort.<sup>76</sup> By the mid-point of the potato harvest in 1946, some 890,000 people were engaged in potato picking, 70,000 of them volunteers, 30,000 Women's Land Army, and a further 180,000 Polish and German personnel.<sup>77</sup> The fact that many of the latter, apart from 'political suspects' would be repatriated within a matter of months raised the issue of how the next year's harvest would be gathered.

Quite fortuitously, the government had learned from the Italian embassy early in 1946 that many repatriated Italians, faced with unemployment at home, were interested in returning to England '... to the farms where they were so happy'.<sup>78</sup> In the event, a small number returned to settle permanently in the United Kingdom. Other Italians meanwhile, yet to be repatriated, were invited to take part in a scheme which would allow them temporarily to forgo repatriation in favour of a 12-month contract to work on farms in the capacity of alien citizens. Needless to say this scheme was enthusiastically supported by the War Office, only too glad further to cast off its responsibility for prisoners of war.<sup>79</sup> Despite the various retention schemes, repatriation was proceeding at the rate of 1500 men per week by January 1947 while WLA membership was shrinking by almost 400 women each month.<sup>80</sup> This being the case, the role of Italian returning

<sup>72</sup> *FW*, 1 Mar. 1946.

<sup>73</sup> *FW*, 25 July 1946.

<sup>74</sup> *FW*, 8 Mar. 1946.

<sup>75</sup> *FW*, 3 May 1946.

<sup>76</sup> *FW*, 11 Oct. 1946.

<sup>77</sup> *FW*, 6 Sept. 1946.

<sup>78</sup> *FW*, 31 May 1946. The embassy held that there was a vast labour reserve in Italy and that it would do all in its power to persuade unemployed citizens to return to Britain.

<sup>79</sup> *FW*, 31 May 1946.

<sup>80</sup> *FW*, 10 Jan. 1947.

prisoners (and those who had contracted to remain temporarily in England and Wales), Polish volunteers and displaced people from the British zones of Germany and Austria took on vital importance. Poles in particular, of whom 190,000 were located at camps throughout Britain, were available to farmers who applied for their services through the local office of the Ministry of Labour. At the insistence of the NUAW, Poles (or, for that matter Germans who had chosen not to return to the Russian zone) could only be employed where there was no available British alternative, in which case they would enjoy the same pay and conditions as the former, subject to the restriction of informing the police of any change of address should they leave their original camp or hostel.<sup>81</sup>

The balance-of-payments crisis of the first post-war decade demanded that every effort be directed towards dollar-saving and the Atlee government launched its ambitious proposal for the agricultural industry to produce extra output to the value of £100 million by 1950–51, in effect an increase of some 50 per cent over wartime levels. Inevitably this would impose heavy demands on labour and throughout 1947 and 1948 the government continued to advertise for volunteers, promoted the various schemes for retaining prisoners on a civilian basis, and made arrangements for farm workers in the armed services to have three weeks extra leave to help with essential harvest work.<sup>82</sup> Yet the prospects for 1948 remained bleak. By midsummer only 16,000 POWs remained in the country, 11,000 or so of them either billeted on farms or located in ‘pools’ in hostels from which they were available for daily hire to farmers. Notwithstanding the argument that the Agriculture Act of 1947 would bring stability to farming and in turn attract more workers to its service, the raising of the school leaving age in the same year effectively spelt the loss of some 18,000 new entrants to the industry. Thus the acute problem of labour supply remained, the situation being exacerbated by the poor summer weather and the heavy storms of the later months of the year. Ultimately it became a matter of ‘muddling through’ and the cereal and potato harvests were brought in by a miscellaneous gathering of regular workers, displaced persons, urban volunteers, unemployed dockers, service personnel, Irish itinerant labourers, volunteers from Europe, schoolchildren and, of course, those remaining prisoners of war.

In terms of the success of British farming in fulfilling the demands placed upon it during the critical wartime and post-war years, the role of POWs is, in the final analysis, difficult to quantify. To date no serious attempt seems to have been made to accumulate an analysable body of oral testimony, although conversations with farmers who lived through the period leaves the impression that from the standpoint of the individual farm, the availability of prisoners at key points of the agricultural year was vitally important. Besides, as more prisoners became available and their working conditions more relaxed, so pressure on volunteers, schoolchildren and other categories was reduced. The War Cabinet entertained few doubts as to the utility of prisoners both to agriculture and the wartime economy as a whole, as the readiness to engage with the logistical nightmare of conveying thousands of men from the Mediterranean region and across the Atlantic bears witness. For many of these prisoners, the opportunity to work came as a welcome relief from the tedium of camp restrictions and for all the bemoanings of correspondents to the *Times*, *Farmers Weekly* and other journals, the majority appear to have

<sup>81</sup> *FW*, 18 Apr. 1947.

<sup>82</sup> *FW*, 28 Mar. 1947; 22 June 1948.

approached their tasks if not with white-hot enthusiasm, then with an acceptance that the job had to be done. There was, after all, the opportunity to earn a little 'camp money' and to enjoy those extra cigarettes and tit-bits which came their way as the official blind-eye was turned. Refusal to work, in any case, could lead to censure in the form of withdrawal of privileges and isolated detention which few but the ideological diehards would care to risk.

The widely-publicized myth of the work-shy Italian compared with the steadfast Teuton requires closer investigation by way of analysis of oral testimony. It may contain more than a grain of truth and an element of justification. Dressed in their chocolate and green prisoner of war battledress (itself a demeaning symbol of subjection), separated from their loved ones, and obliged to work in miserable conditions in the dreary winter climate of Britain, these men were unlikely to give their all. Some sympathy was probably appropriate to the dispirited citizens of a totally discredited and ruined nation. For all the propaganda about the common front against Germany, they could scarcely be expected to over-exert themselves in the interests of their victors. The simple fact remains that the ditches were dug, the land was drained and in one way or another, the wartime harvests were garnered. That this was so was in no small measure due to the success of the wartime authorities in marshalling and co-ordinating the labour of prisoners of war under their command.

# The impact of the military on the agricultural landscape of England and Wales in the Second World War

by William Foot

## Abstract

The military occupation of large tracts of the British landscape in the Second World War had an enormous effect on agriculture. By 1944, over 11 million acres (20 per cent of the total land surface of the United Kingdom) were under some form of military control, of which a million acres were fully requisitioned – that is the military were in possession and the civilians inhabitants dispersed. This chapter examines the different needs of the military for land, and demonstrates how these impacted on farming.

Laurie Lee wrote in *Land at war* – the Ministry of Agriculture’s celebration of its wartime achievements – that ‘modern arms are insatiable in the matter of land’.<sup>1</sup> This chapter looks at that insatiability as it was experienced in Britain in the Second World War, and how it was necessary to try to curb it in order to protect the other great wartime land need – food production. On 8 September 1939, at the very beginning of the War, the editor of *Farmers Weekly* wrote under the banner headline ‘British farming is mobilized up and down the country’ that ‘Powers have been taken by the government to control, direct and expand the production of food from our own farms; to help farmers, under stress of war, to grow all the extra food that may be needed ...’. It was recognized in the farming press that food supply would be a decisive factor and that farmland must be utilized to the limit of its capacity.<sup>2</sup>

The plough-up campaign, which was actually launched just before the War, had exactly that object in mind. Through the determined efforts of the County War Agricultural Executive Committees it resulted in nearly 6 million extra acres being created for arable crops in Britain during the course of the War. Despite this, by 1945 there was an effective net loss of some half million acres in the total land area available to agriculture. A large part of this loss was due to the demands of the military which, between the three service departments of the War Office, the Air Ministry, and the Admiralty, requisitioned and occupied some 750,000 acres in England and Wales, of which over 60 per cent was for the use of the Army.<sup>3</sup> Additionally, by 1944 a further 10,750,000 acres (a total of some 20 per cent of the total land surface of the United Kingdom) was under some form of control by the military, which, although it did not

<sup>1</sup> Ministry of Information [Laurie Lee], *Land at war* (1945), p.38.

<sup>2</sup> *FW*, 8 September 1939, p.16.

<sup>3</sup> TNA, MAF 38/574.



directly occupy the land, nevertheless had the power under various of the Defence Regulations to enter and make use of it for wartime purposes.<sup>4</sup>

# I

From early on in the War, and in particular after the fall of France in June 1940, one of the prime needs of the Army was for land to construct defence works to protect the country against the threat of invasion. The massive construction programme that resulted can be termed a 'landscape of defence'. Of prime consideration was the fortification of the coastline, particularly on the east and south coasts. This coastal defence extended for several miles to the rear and linked up with a network of inland stop lines that were themselves to be largely supplanted by a system that concentrated more on area defence in depth. Some 28,000 pillboxes and anti-tank gun emplacements were built, and hundreds of miles of anti-tank ditch dug, many of these defence works being placed on or across farming land. The power to do this came usually from Defence Regulation 50 under which the military could enter land to construct any field works necessary for the prosecution of the War, compensating the farmer later for damage or any diminution in the value of the land.

An illustration of the problems caused to farmers by these anti-invasion measures can be seen at Oaklands Farm in the Sulham Valley, south of Pangbourne, where a section of a major defence line was carried down the valley. The farmer, a Miss Wrench, complained to the Berkshire WAEC that her small farm was to be cut in two by an anti-tank ditch rendering most of it unusable, but no appeals to the Army could get the line altered. 'The exigencies of defence do not permit of moving the line eastwards' was the Chief Engineer's reply.<sup>5</sup>

Even greater damage to agriculture was caused by the measures to block fields and other open areas against enemy aircraft using them to land troops and supplies. This was carried out on land with a length in any one direction of 500 yards that lay within five miles of the coast, or within five miles of an airfield or other 'vulnerable point'.<sup>6</sup> The first method used by the Army was to dig trenches across the open land, not only rendering many fields useless for agriculture but effectively destroying their field drainage. Later, a greater use was made of wood or concrete posts – 100,000 concrete posts alone were provided in the East Riding of Yorkshire – but the work to erect these caused much damage to growing crops and made the farming of the obstructed fields very difficult. As the principal purpose of these defences was to prevent German aircraft landing and *taking off again* so as to return with further men and supplies, once the

<sup>4</sup> TNA ADM 1/19584. Official statistics for the military take-over of agricultural land for the wartime period are difficult to reconcile, sometimes referring to the UK, at other times to Britain or Great Britain, and sometimes to England and Wales. All Ministry of Agriculture responsibilities extended only to England and Wales, and whilst other data is given here to provide a context, it will be from England and Wales that the empirical material for this chapter is drawn. For further detail and discussion

of the statistics of military land use see A. W. Foot, 'The impact of the military on the agricultural landscape of Britain in the Second World War', (unpublished MPhil thesis, University of Sussex, 1998), pp. 7–13.

<sup>5</sup> TNA, MAF 169/26.

<sup>6</sup> A system was drawn up to identify all strategic and economic points – for example war factories, radar stations, railway viaducts, reservoirs – so that they could be adequately protected.

1940 harvest was in, the simple ploughing of fields was considered a sufficient measure, since powered aircraft could not take off from ploughed soil.

The Minister of Agriculture, R.S. Hudson, visited the front-line areas of Kent and Sussex in July 1940 and was appalled by the 'unnecessary damage' to agriculture that he saw and the 'complete ignorance and disregard of aspects of national defence such as food supplies' shown by some Army officers.<sup>7</sup> Earl De La Warr, who was Agricultural Commissioner for the south-eastern counties, reported that the military appeared to be 'running amok'. Around Dover and Folkestone, for example, defences were being erected and deep trenches dug with no regard for agriculture and with no notification to the farmers. 'It is almost impossible to use any of the pasture, and land and crops have been seriously damaged'. Herds of livestock were having to be reduced and farm labourers laid off.<sup>8</sup>

The military did react to these criticisms, and took measures to instruct officers and men in ways to minimize the loss to food production. Farmers were also given a 48-hour period in which they could make suggestions for any alternative sites or construction methods that might reduce damage to crops. The invasion threat receded in the winter of 1940, and although renewed in the Spring of 1941, the situation improved and better controls and consultation prevailed. But as J.B. Priestley wrote, for a while 'the most flourishing crop seemed to be barbed wire'.<sup>9</sup>

## II

The landscape of defence also included the many components of what was termed the Air Defence of Great Britain. Land – often farming land – had to be found for searchlights and their crews, for both light and heavy anti-aircraft batteries and their attendant camps, and for observation posts for the Royal Observer Corps. Airfields themselves were ringed with defences, and it is the airfields that we consider next as priorities in the home landscape changed from one of defence to one of attack.

In the desperate days of 1940–41 when Britain's armies were in retreat, the best way of counter-attacking Germany was judged to be by air bombing. Later, once America had entered the War, combined bombing attacks by both the Royal Air Force and the United States Army Air Force was considered a major strategy for the defeat of Germany, its proponents even claiming that it could achieve its aim without the need for a major land invasion of occupied Europe. The resulting expansion in the number of airfields required for these operations was again summed up by Laurie Lee. 'Fighter and bomber airfields, requiring thousands of flat, dry fields, obliterated many farms'.<sup>10</sup>

Some 450 new airfields were built during the course of the War, and many were extended and upgraded, making a total of 623 in use at the end of 1944. These occupied 333,259 acres, almost entirely of good agricultural land, the equivalent of some 160 million square yards placed under

<sup>7</sup> TNA, MAF 48/368.

<sup>8</sup> TNA, MAF 48/383. There was a similar Agricultural Commissioner for East Anglia.

<sup>9</sup> Quoted in Norman Longmate (ed.), *The Home*

*Front: an anthology of personal experience, 1938–1945* (1981), p. 57.

<sup>10</sup> Ministry of Information, *Land at war*, p. 38.

concrete.<sup>11</sup> Each Class 'A' bomber airfield, with its attendant service and accommodation sites, had a total area of some 750 acres. The airfields were like so many new towns, built in less than a year, and with a population of between 2000 and 3000 service personnel.

The land for an airfield was invariably taken under the powers conferred by Defence Regulation 51 whereby it was seized and occupied by the military, and the civilian inhabitants ejected, appropriate compensation – usually inadequate – being paid. The actual construction of the airfield dramatically altered a landscape perhaps unchanged for centuries. An American soldier working with an airfield construction unit in Suffolk wrote how 'There is nothing quite as final, quite as levelling as an aerodrome ... Every graceful contour softened and smoothed by centuries of wear ... was hacked and shovelled and levelled ...'.<sup>12</sup> At Dunsfold in Surrey, Canadian troops assigned to build an airfield looked with awe at the rich farming landscape they were to destroy. It seemed almost 'a criminal act' to do so.<sup>13</sup>

The essential requirements for an airfield – level, well-drained land at a low altitude – were the same as those that described much of the best agricultural land. These requirements, coupled with the fact that bomber airfields had to be placed as close as possible to their operational targets in enemy-occupied Europe, immediately identified East Anglia and the east Midlands as the prime areas for construction. As these areas also contained some of the finest arable land in the country, with a productivity maximized in the plough-up campaign, it can be seen that the negotiations between the two ministries were critical. But East Anglia became a mosaic of airfield sites, often only five miles apart.<sup>14</sup>

The finding of sites for airfields was one of the most demanding military land use requirements of the War, and one that arguably caused the greatest friction with agriculture. All potential sites were considered by an Aerodrome Board, at first made up entirely of RAF officers. The Ministry of Agriculture, along with other interested departments, were only given 14 days to object to a particular site and suggest alternatives. The Air Ministry's judgement, however, was final, as its operational needs were deemed by the War Cabinet to have absolute priority. Faced as he was with the critical task of ensuring that the nation grew as much food as possible, Hudson became concerned from 1941 that his department's objections to airfield sites were going by default and that the needs of agriculture were not being taken seriously enough by the Air Ministry. He wrote to his powerful ally, Lord Beaverbrook, saying that he thought Sir Archibald Sinclair, the Secretary of State for Air, regarded the liaison procedure as merely an 'irritating farce'. He quoted as well Winston Churchill's view expressed in April 1941, 'Remember food is part of our war ... It is becoming increasingly serious to hamper agriculture'.<sup>15</sup> Although Beaverbrook expressed support for Hudson, it was not enough to alter Sinclair's view. 'Nothing less than the strongest possible Air Force will suffice to win the War. Given this Force, the chances of importing food will be considerably improved. *We cannot import aerodromes.*'<sup>16</sup>

<sup>11</sup> Foot, 'Impact of the military', pp.76–80.

<sup>12</sup> Robert S. Arbib, *Here we are together. The notebook of an American soldier in Britain* (1946), pp.18–19.

<sup>13</sup> Paul M. McCue, *Dunsfold. Surrey's most secret airfield. 1942–1992* (1992), p.13.

<sup>14</sup> David J. Smith, *Britain's military airfields, 1939–45* (1989), p.63.

<sup>15</sup> TNA, MAF 48/389 and (Churchill, 5 Apr. 1941) TNA, AIR 19/278.

<sup>16</sup> TNA, AIR 19/278 (author's italics).

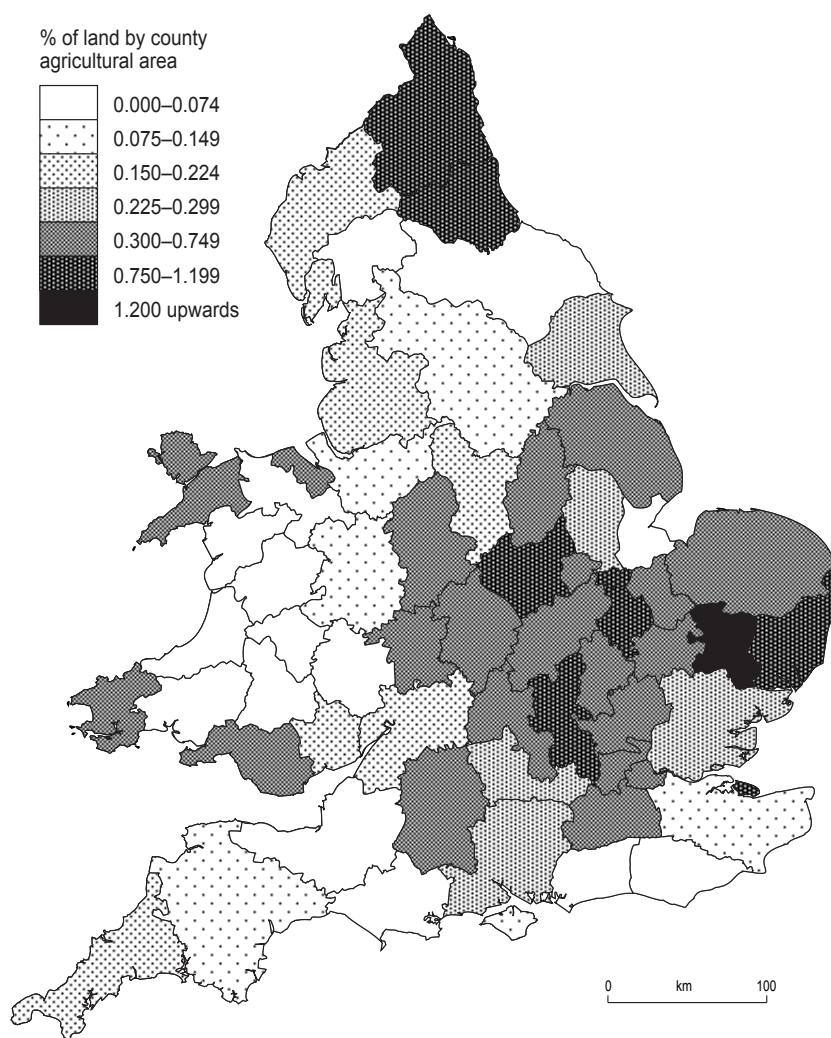


FIGURE 10.1. Land requisitioned by the Air Ministry during 1942 as percentage of county agricultural area.

Source: TNA, MAF 38/574.

Beaverbrook's influence, however, did lead to the dispute between the Air Ministry and the Ministry of Agriculture being considered by the War Cabinet in August 1941, when a compromise was reached. Sinclair agreed that a Ministry of Agriculture representative could sit on the Aerodrome Board, allowing this individual to raise objections to proposed airfield sites much earlier than had been the case before, giving time to put forward possible alternatives. Much more attention was also to be given to the gathering of harvests before land was taken, as well as to the preservation of economic farming units wherever possible. Sinclair even assented to certain airfields being ploughed between the runways. These concessions were important for the agricultural cause, but they were a small price for the Air Ministry to pay in order to continue to obtain the sites it so desperately needed for the expansion of the bomber offensive against Germany, particularly after the arrival of the American Air Force in Britain. Of 245 sites objected

to by the Ministry of Agriculture, only 17 were abandoned on those grounds. In effect, to win the War, there was no alternative but to take the land *regardless* of agriculture (Figure 10.1).<sup>17</sup>

### III

Equal with the impact of airfield construction on farming land was that of the ever-growing need by the Army for training grounds. In February 1944, the area of Britain used for training reached a peak of 9,769,000 acres in preparation for the forthcoming Normandy campaign.<sup>18</sup> All but 391,000 of these acres fell under the power of Defence Regulation 52, by which the land could be used for any military purpose not involving building works, compensation being paid to the landowner in the event of damage. The remaining 391,000 acres, however, were seized under Defence Regulation 51 and required the eviction of the civilian inhabitants, usually entire agricultural communities. The training requirements for D-Day demanded increasingly large tracts of landscape where realistic battle simulation and practice could be carried out, separate areas being accorded to the American and the British forces. Many of these had a coastal front for the practice of beach assault landings, with a depth of several miles inland for live firing from the sea. Around Slapton Sands in South Devon, for example, a training area of 30,000 acres was created, and occupied from December 1943 by American troops. As many as 2700 people had to be evacuated from nine villages and 200 farms. Agricultural losses included 6500 acres of pasture land, 5500 acres of arable, 11,000 sheep, 800 pigs, 580 horses, and 16,000 poultry. The damage to the land itself was catastrophic. There were shell holes in fields, roads, and gardens (one 14-acre pasture received 270 craters), and many farm buildings were totally destroyed. One farmer, viewing the damage, commented, 'The land has changed its face'.<sup>19</sup>

Other compulsorily evacuated areas were at Stanford in Norfolk, where six villages with 70 cottages and ten farms were lost to the military, leading to the evacuation of some 750 people, the South Downs, where 30,000 acres were taken, and the villages of Tyneham and Studland in Dorset with their coastlines and surrounding countryside. In most cases where land had been seized under Defence Regulation 51, the civilian inhabitants returned after the military use was completed, but in several notorious cases, of which Tyneham and Stanford are perhaps the most prominent examples, the Army's need for the land has continued through to the present day and, despite 'solemn promises', civilians have never returned.<sup>20</sup>

Although upland and moorland areas were used extensively for military training, agricultural land was also required for this purpose, not the least reason being that a landscape of fields, lanes, and woods resembled the battlefields the soldiers were going to fight across in Normandy and thus made for more realistic battle training. Armoured fighting vehicles also required flat, open lands for their effective deployment, and such conditions for training, as with the requirements for airfields, were largely to be found in the rich cornlands of eastern England.

<sup>17</sup> TNA, CAB 102/26 and AIR 20/4014. For a full account of the inter-departmental dispute, see Foot, 'Impact of the military', esp. pp. 76–118.

<sup>18</sup> A precise figure for England and Wales is not available.

<sup>19</sup> TNA, HO 186/2919; MAF 140/11. See Grace

Bradbeer, *The land changed its face: the evacuation of the South Hams, 1943–44* (1993).

<sup>20</sup> For Stanford, TNA, WO 32/12451 and 'A Norfolk Woman', *Farming on a battleground* (1951). For Tyneham, Patrick Wright, *The village that died for England* (1995).





FIGURE 10.2. General Sir Bernard Paget, successively Commander-in-Chief Home Forces and the 21st Army Group, observes a tank exercise in a Yorkshire harvest field. Undated, probably 1943.

Source: TNA, INF 2/42.

As an experiment, and to appease the Ministry of Agriculture who viewed with horror the possible seizure of thousands of acres of Grade 'A' agricultural land for training with tanks, the War Office used its powers under Defence Regulation 52 (and not Defence Regulation 51) to take the land for this purpose in the Yorkshire Wolds and around Wye in Kent. Although this training caused great damage to farming land, the experiment of farmers staying in place while tank formations operated around them proved a success (Figure 10.2). If the 105,000 acres required in the Yorkshire Wolds had been taken under Defence Regulation 51, then an annual production of 7950 tons of wheat, 18,750 tons of barley, and 5175 tons of oats would have been lost. As it was, some 65 per cent of the expected harvest was obtained, although livestock, threatened by the freedom of movement of tanks, had to be sold off, often at a loss, by the farmers affected. Some 5900 claims for compensation totalling £1.5 million were received by the War Office Claims Commission.<sup>21</sup>

Any area of the British countryside might be used by troops for training under the powers conferred by Defence Regulation 52, often without prior notification to farmers or other landowners. This was particularly the case around designated battle training areas, where units would often deploy across a wider landscape beyond the area boundaries, practising military skills not requiring live firing. At the insistence of the Ministry of Agriculture, instructions were issued to troops pointing out that food production was vital to the war effort and giving a list

<sup>21</sup> TNA, CAB 66/34 and WO 306/1.



of 'do's and don'ts' to be followed when on farming land. During major exercises, army repair parties would follow the troops, filling in slit trenches and weapons pits, and mending hedges and fences. On 'Exercise Tiger' in South-Eastern Command in May 1942, for example, 20 repair parties accompanied 200,000 troops and, in the 11 days of the exercise, effected 480 repairs. Nevertheless, 1677 claims were still lodged by landowners.<sup>22</sup>

The Ministry of Agriculture was very active in doing all it could to salvage crops and protect farming land and property, while respecting the imperative need for troops to train. A Ministry representative sat on a Training Area Selection Committee, and was able to organize the saving of harvests – often using army personnel – before land was taken or training begun. In August 1942 at Stanford, for example, the Army worked with the Norfolk WAEC to harvest 2793 acres of wheat, together with ten tons of blackcurrants, in an especially-organized lull in live firing.<sup>23</sup> But despite co-operation such as this, the National Farmers' Union was concerned that military training often made farming 'utterly impossible'. Crops just ready for harvest were destroyed, valuable machinery was damaged when it hit the ruts left by heavy tanks, seed beds had to be re-sown, trenches and pits were dug and left open, fences and gates were broken down, stock was let out and lost, and fruit, eggs, and poultry were stolen. In addition, gunfire cracked walls, broke windows, and brought ceilings down.<sup>24</sup>

By May 1944 there were some 3.5 million troops in Britain, of whom 1.5 million were American, mostly crammed into the southern counties of England in preparation for the D-Day assault across the Channel. The planning for the Normandy invasion involved the most enormous military land use, one that had to be shared cheek by jowl with the civilian population. And much of the land needed had to be taken from agriculture (Figure 10.3). It was required for camps to accommodate the troops, for stores and munitions dumps, for ordnance and other factories producing the matériel of war, for vehicle parks, for prisoner of war camps, for hospitals, for barrage balloon and artillery sites protecting the troop concentrations, and for headquarters and other administrative buildings.

The accommodation needs of the United States military formed part of Operation Bolero for the build up of US forces in Britain. In the years 1942–44, camps mushroomed over England. Sites had to be level and well-drained, and usually in close proximity to the training areas. The Ministry of Agriculture resisted the taking of agricultural land for this purpose, and as a consequence camp sites were often on downland and heath or on land liable to flooding. For the D-Day concentration of forces, marshalling camps, usually tented, were established within areas of countryside up to 50 miles from the embarkation ports, often being placed in woodland for camouflage purposes. Supplies and ammunitions were stored at roadsides and the edges of fields, and camouflaged armoured fighting vehicles, jeeps, lorries, and trucks were parked in villages and farms.

Further land for airfields – known as Advanced Landing Grounds – required for fighter-bomber aircraft supporting the invading troops was carved out of the south-eastern counties, mainly in Kent and East Sussex. Although the runways were not concreted, but made of steel strips known as Sommerfeld Track, these airfields usually required surface grading and

<sup>22</sup> TNA, WO 199/802.

<sup>23</sup> TNA, MAF 48/620.

<sup>24</sup> TNA, HLG 71/849.

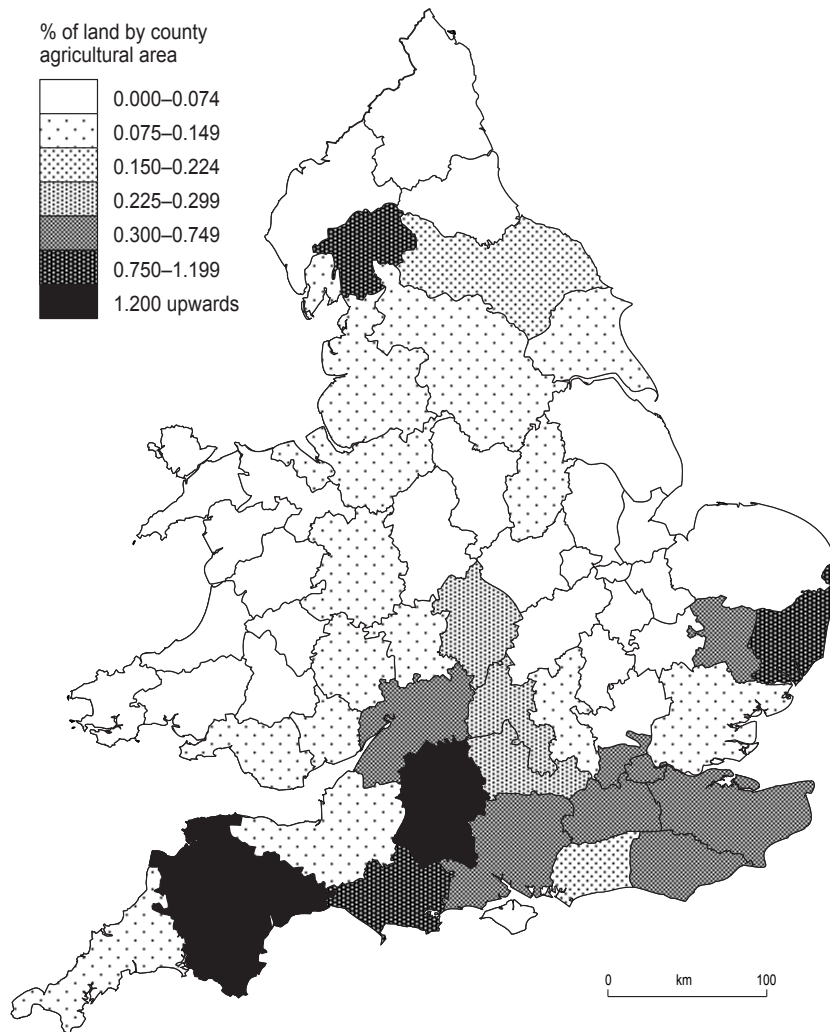


FIGURE 10.3. Land requisitioned by the War Office during 1944 as percentage of county agricultural area.

Source: TNA, MAF 38/574.

considerable clearance of the ground, and took much land from agriculture in 1943–44. There were seven sites alone in one area of Kent to the south and west of Ashford. But the land was back in agricultural production before the end of the War.

#### IV

The militarization of the landscape not only affected large tracts of the countryside, but it brought as well many inherent dangers to the people who lived there. Perhaps the most dramatic example was the explosion at Hanbury in Staffordshire on 27 November 1944 when 4000 tons of bombs stored in a disused gypsum mine at RAF Fauld exploded – the largest single

detonation of conventional explosives the world has ever seen – creating a crater 900 feet across and 80 feet deep. One farm was destroyed completely and another so badly damaged its buildings had to be demolished. Seventy people were killed, including nine on the farms. As well as the loss of life and injury, the explosion had a devastating effect on the agriculture of the parish. The land of 13 farms was affected to a greater or lesser extent by the explosion: 240 acres of arable land and 800 acres of pasture were lost and 200 cattle and 100 sheep killed. From March 1945, the Staffordshire WAEC worked around the clock to level the ravaged land surface, filling in a multitude of craters formed by falling debris, restoring ditches and field drainage, replanting woodland, and recreating a top soil that could be sown for grass or ploughed for cropping. Nothing at all, however, could be done with the land which lay some 20 to 30 feet above the original ground surface for a distance of 100 yards around the great crater. This land, and the crater itself, remain today as a haunting memorial to the disaster.<sup>25</sup>

Other hazards to farming communities were created by the large numbers of crashing aircraft, in particular in the vicinity of airfields. During the period of the Battle of Britain, many of these crashes were caused by the air fighting, but later in the War the great majority were the result of accidents. Heavy bombers taking off laden with fuel and bombs represented a particular peril, or landing on their return from an operation, perhaps damaged and with injured and exhausted crew. At the height of the bomber offensive in 1943–44, aircraft were crashing in the East Anglian region at the rate of one a day. The falling wreckage, and the attendant fire and rescue crews, did much damage to agricultural land, as did the inevitable sightseers and souvenir hunters. There was provision under the Defence Regulations to fine anyone needlessly trampling crops up to £50, perhaps equivalent to £2500 in today's values.

Enemy action was always a threat to the countryside as well as the towns. During the Battle of Britain, German aircraft not only dropped bombs but machine-gunned the ground, and in the front-line counties of the South East shelter trenches were dug in the fields. In the Folkestone and Dover areas, farming continued despite constant aerial attack and shell fire from long range guns. Craters littered the landscape creating a hindrance to agriculture, and farmers often sought help from the Army, or from the local WAEC, to fill them in. And from June 1944 to early 1945, the V1 flying bombs had a devastating effect on the countryside, for not only did they often come down of their own accord on villages and farms, but the anti-aircraft batteries that were positioned on the coast and in the Weald, together with chasing Allied fighters, tried to ensure that they were brought down over 'open country' rather than urban areas. As was pointed out at the time, 'open country' contained the homes of the agricultural workers who grew the food to keep the nation alive.<sup>26</sup>

Sites were needed, often on farming land, for the batteries and the barrage balloons that protected London. The noise of the anti-aircraft fire was appalling, and many country people suffered sleepless nights for weeks. The effectiveness of the batteries and the balloons brought attendant dangers to those who lived alongside, for the V1s were sometimes brought down by them to detonate nearby. Even where the missiles had exploded relatively harmlessly amongst fields, there were dangers to livestock from the pieces of wire they expelled which could enter

<sup>25</sup> William Foot, 'Landscapes of destruction', *Defence Lines* 8 (1997), pp. 5–9.

<sup>26</sup> *Kent Messenger*, 15 Sept. 1944.

the stomachs of cows as they grazed, invariably proving fatal. Farmers were still claiming for such losses in the late 1950s.<sup>27</sup>

## V

Even before the war had ended, land that was no longer needed by the military was being returned to agriculture, and, as soon as peace was declared, a positive programme to remove military sites and structures, based on an order of priorities of which agriculture was at the top, was begun. Food production was as vital after the War as it had been during it. However, large areas that had been requisitioned for airfields and training areas were retained and compulsorily purchased. The threat of the Cold War turning hot meant that much military land and property had to be held in reserve in case a major expansion of the Army and Air Force was required once more.

This chapter has shown that in order to practise and carry out the business of the killing and destruction of the enemy, the military based in the home landscape was compelled to occupy, and sometimes lay waste, large areas of the very country it was fighting for, including the iconic rural landscapes of the Home Counties. Ironically, it was usually military practicalities that prevented further encroachment on agricultural land, rather than any overriding adherence to a policy that prohibited further loss of food production. As a result, agriculture had to be exploited to its fullest through state direction in the areas not needed by the military, with an insistence by the CWAECs on improved husbandry and the application of new artificial fertilizers. It can be said that, in part at least, the impetus for the significant developments in wartime and post-war British farming was a response to the loss of so much prime agricultural land to the military.

<sup>27</sup> TNA, BT 228/14.

# The War Agricultural Executive Committee in Dorset: state-directed farming or the preservation of the landed estate?

by Janet Waymark

## *Abstract*

The stability of agricultural landownership had been challenged between the wars by adverse economics and by political attacks on the nature of landownership itself. In Dorset, a county overwhelmingly dependent on agriculture, and where estate ownership of land was more resilient than in many southern counties, there was a perception amongst some landowners that state interference in the preparations for food production made in the period leading up to the Second World War was a threat to their survival. In short, that there were plans afoot for 'nationalization by the back door'. This chapter examines the perceived threat by studying the powers, work and membership of the War Agricultural Executive Committee and its sub-committees in Dorset, bodies which were themselves part of the state's direction of agriculture. A key finding is that these bodies, paradoxically, by insisting upon good husbandry for the welfare of the nation, secured the way of life and continuity of the Dorset landowner, not his disappearance.

Dorset's landowners have been tenacious people; there are families still in residence who have owned and farmed estates since at least the seventeenth century. Ten of the twelve landed estates owning 10,000 acres listed in the 1883 edition of John Bateman's survey of great landowners still remained in 1990, most with 5000 acres or more, and these had been joined by others after Bateman had published his results.<sup>1</sup> This was despite the prolonged, if sporadic, downturn in the fortunes of farming from the last quarter of the nineteenth century through to the Second World War, which has been attributed to innovation, cheaper production of farm goods, better transport by land and sea, and government refusal to abandon the policy of free trade. On a socio-political level there was a perception that landowners were more concerned with field sports than efficient farming methods.<sup>2</sup> And all this was happening within a framework of moves by both Liberal and Labour governments to emasculate the landowner.

The purpose of this chapter is to examine whether the Dorset War Agricultural Executive Committee (WAEC) of the Second World War, established by the state at a time when the

<sup>1</sup> John Bateman, *The great landowners of Great Britain and Ireland* (4th edn, 1883, repr. 1971). *rural report of Liberal Land Committee 1923–25* (1925), p.190.

<sup>2</sup> Liberal Land Committee, *The land and the nation*,

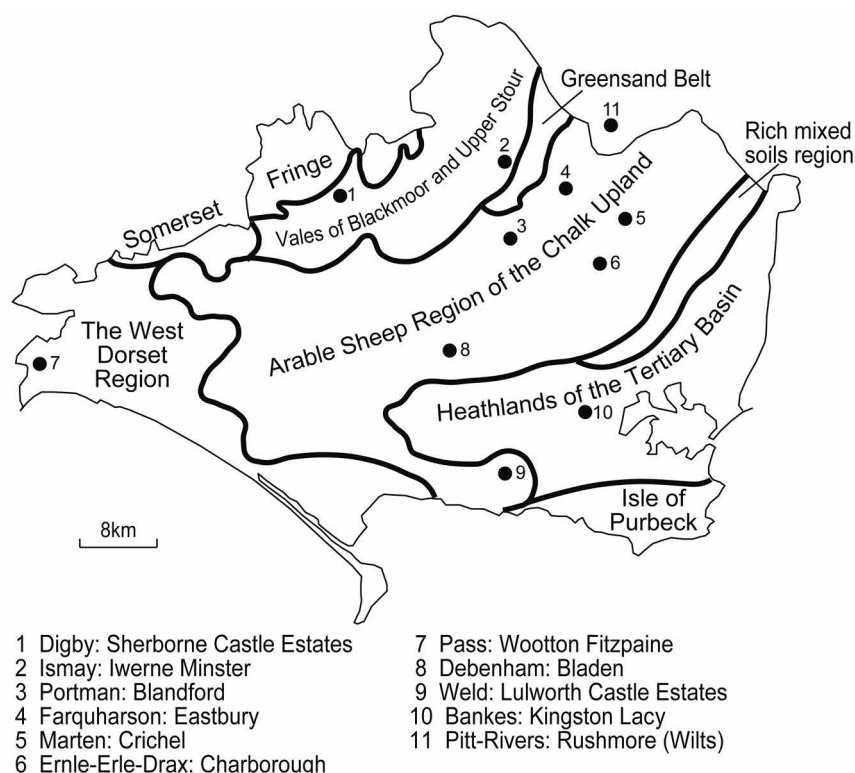


FIGURE 11.1. Dorset land use regions and the location of Dorset's great estates.

country needed to be as self-sufficient in food supply as possible, furthered or hindered the survival of landownership. The role of these committees was to ensure that food could be produced as quickly and efficiently as possible in time of crisis. But in so doing, were they in effect acting as arms of the state, rescuing a farming industry which had been struggling since the end of the nineteenth century, by once more temporarily 'farming from Whitehall', as had happened in the First World War?<sup>3</sup> Or, was there a hidden agenda which would finish the work which had been set in motion in the late nineteenth century, and continued by Lloyd George in his Finance Act of 1909–10, which aimed at diminishing the political and social significance of the landowners, possibly by the nationalization of land under the auspices of the emergency Defence Regulations of 1939? Were the WAECs to preserve and improve the status quo, or to remove the land of inefficient landowners, in order to give it to the state in their stead?

This question was keenly felt in Dorset, which in the period up to the Second World War and beyond had little economic activity beyond farming.<sup>4</sup> This was a county with relatively low agricultural wages and low land values, and one where the proportion of land occupied by

<sup>3</sup> Anon., 'Quarterly notes, agriculture in wartime,' (1939), p.239.  
*J. Country Landowners' Association* [hereafter *JCLA*] 20

<sup>4</sup> L.E.Tavener, *The land of Britain: Dorset* (1940).



tenants was, by the Second World War, the highest of any county south of the Thames (73 per cent, compared with the figure for England and Wales of 67 per cent).<sup>5</sup> For a long time there had been a predominance of livestock farming on small estates in the north, south-west and west, and much larger estates in the east, some in excess of 20,000 acres. Traditional sheep and corn husbandry had given way to an emphasis on dairying, particularly in the north and west. The county is made up of sedimentary rocks, with a heartland of chalk downland around which are wrapped Jurassic clays, sandstones and limestones, giving hills and vales in the north, southwest and west, and the flatter landscapes of the Tertiary sands approaching Bournemouth in the east (Figure 11.1). There were no minerals to develop: oil was known about in the nineteenth century but had been rejected by the Crown Estates as too sulphurous.<sup>6</sup> At this time the county contained no major ports, no cathedral city, university or large towns.<sup>7</sup>

# I

The landed were threatened in the first half of the twentieth century by four political weapons which had their origins in the Liberal Party.<sup>8</sup> The removal of betterment by the taxation of unearned increment on land as it changed hands and the collection of a duty on the capital value of undeveloped land were the work of Lloyd George in his Finance Act, 1909–10. This lasted until 1920. Secondly was the more dangerous spiralling of estate duties: an estate valued at £1,000,000 in 1919 paid 30 per cent in taxation, rising to 44 per cent in 1939, and 80 per cent in 1940. Smaller estates valued at £50,000 paid 11 per cent in 1919 and 35 per cent by 1949. However, it is often forgotten that agricultural rates were cut in 1923, and abolished completely in 1929.<sup>9</sup> The third threat, compulsory purchase in the national interest, and the fourth, the nationalization of land, remained largely dark portents until wartime.

From 1939 many landowners across England and Wales feared that wartime requirements for military training grounds, aerodromes or defence structures might offer a pretext for the state to expand into the ownership of all agricultural land. Dorset was no exception, and the long-established landowners in the east of the county had the largest acreages and therefore the most to lose. Land requisition during the Second World War not only alarmed the owners of the estates concerned but also their neighbours. Although many Dorset landowners were initially reluctant to discuss issues of pre-war fears of nationalization and land losses with the author, a picture emerged from such personal communication of the concern felt over this issue on the eve of the War, and during its long progress. Many felt unable to fully express their anger at

<sup>5</sup> B. Afton and M. Turner, 'Rent and land values,' in E. J. T. Collins (ed.), *The agrarian history of England and Wales*, VII, 1850–1914 (2000), pp. 1914–39; id, 'Wages' *ibid.*, pp. 1998–2019; Ministry of Agriculture and Fisheries, *National Farm Survey of England and Wales, 1941–43: a summary report* (1946), map 1 p. 21 and Table A.3, p. 93.

<sup>6</sup> TNA, CRES 35/631, Petroleum Dept Report to Crown, 29 Apr. 1924.

<sup>7</sup> Bournemouth, which, because of its balmy climate and resinous pine trees, developed rapidly in the nineteenth century as a resort and centre for convalescent

homes, was added to Dorset only in 1974 to counteract the absence of urban ratepayers.

<sup>8</sup> For discussion of the decline of landed society see F. M. L. Thompson, *English landed society in the nineteenth century* (1963), especially pp. 327–345, and David Cannadine, *The decline and fall of the British aristocracy* (1990). For a case study, see C. Beale, *Champagne and shambles: the Arkwrights and the downfall of the landed aristocracy* (2006).

<sup>9</sup> Cannadine, *Decline and fall*, p. 97.

these losses until the years after the War.<sup>10</sup> The requisition of land for military purposes before and during the War took place on a large scale in Dorset. This was particularly the case with the compulsory acquisition of the 14,756 acre Crichel Down estate belonging to the Alington family by the Air Ministry for use as a bombing range in 1937. Further Alington land at Tarrant Rushton was requisitioned for an airfield in 1942, which also affected land belonging to the neighbouring Farquharson family's Eastbury Estates along the Tarrant Valley.<sup>11</sup> At Tyneham, where the Weld family held 15,478 acres based on Lulworth Castle, land had been leased to the War Department in 1916 for use as army firing ranges. The Weld family subsequently signed a 99-year agreement with the War Department in 1937, 'for nationalistic rather than economic' reasons. The War Department then broke its promise and extended the lease to 200 years. In this way 1120 acres of farmland was lost by the Weld family.<sup>12</sup> A further 6313 acres were purchased from the Welds, the Bonds of Tyneham in 1943, the Mansel family of Smedmore, the Scotts of Encombe, and the Bankes of Kingston Lacy whose land at Studland, after being taken by the Admiralty, was being farmed by the War Department in 1944.<sup>13</sup> In these circumstances, on the eve of war there were widespread suspicions of the purposes of government and fears of creeping land nationalization under the pretext of military need.<sup>14</sup>

## II

A little background is necessary to explain the position in Dorset farming at the outbreak of the Second World War, because this relates closely to the task of the Dorset WAEC and its sub-committees.

The economic climate in the first third of the twentieth century was dominated by the First World War and the two depressions of 1920–22 and 1929–33, and government policy which drifted between *laissez-faire* and *ad hoc* intervention, dictated by the requirements for cheap food for the urbanizing workforce. There are no surviving minutes for the Agricultural Executive Committees (CAECs) for Dorset for the First World War, but farmers were exhorted to expand acreages at this time to feed the nation, only to be faced with plummeting prices afterwards. The Corn Production Act, 1917 brought more land into cultivation in Dorset but

<sup>10</sup> In particular, I am indebted to personal communication in the form of correspondence and an interview with the Marten family, the Honourable Mary Anna and Lieutenant-Commander George Marten, at Crichel on 5 August 1991.

<sup>11</sup> The third baron Alington died on active service in Beirut in 1940, leaving an only daughter who married Lt.-Comm. George Marten.

<sup>12</sup> Department of the Environment, Property Services Agency for Ministry of Defence to J.D. Waymark, 18 Feb. 1987. Pers. Comm. Wilfred Weld to J.D. Waymark, 26 June 1987. Documents relating to the Lulworth Estate were destroyed when the Weld's London solicitors were bombed during the Second World War.

<sup>13</sup> Eventually the War Department took over eight

miles of the coast from Lulworth Cove to Kimmeridge Bay, and their firing ranges extended inland across the Purbeck Hills towards Wareham. Land was taken from the Bonds of Tyneham in 1943, for which see Lilian Bond, 'Introduction' in *Tyneham, a lost heritage* (1956) (n.p.). See also P. Wright, *The village that died for England: the strange story of Tyneham* (1995). For the Mansells of Smedmore, the Scotts of Encombe, and H. J. R. Bankes of Kingston Lacy, see TNA, MAF 80/532, 21 June 1944.

<sup>14</sup> The difficulties the Marten family encountered in securing the post-war return of their land are well known: R. Douglas Brown, *The battle of Crichel Down* (1955), and conversations and correspondence with Lieut.-Comm and Mrs Marten in 1991.

did not help the smaller struggling estates in the livestock regions in the south, west, and parts of the north of the county, and it fixed rents at the 1915 rate. Three wartime national committees were set up to direct farming policy. The Milner Committee of 1915 proposed deficiency payments for the harvests of 1916 to 1919, and set up District Wages Boards to put in place minimum wages for farm labourers; the Hobhouse Committee of 1916 attempted to expand the workforce. More pertinent to what was to follow, and landowners' perceptions of their own stability, was the Selborne Committee of 1917 on post-war policy. This wanted farmers to make a greater contribution through efficient farming, and to this end agricultural committees were empowered to inspect farms and report instances of poor cultivation or neglect amongst farmers or landowners, which could lead to dispossession and management by committee 'in the national interest'.<sup>15</sup> Milner and Selborne wanted a national farming policy with prices and wages controlled and estates supervised by trained agriculturalists.

The CAEC was replaced from 1920 by the Dorset County Agricultural Committee (CAC), made up of 24 members, mostly drawn from the wartime CAEC, of whom ten were landowners, six were tenant farmers, and two were retired farmers. They included the Earl of Shaftesbury and the agent for the Drax estate at Charborough Park, two men representing landed power and a considerable territorial spread of some 40,000 acres in east Dorset. There were also smaller but equally influential landowners such as Alfred Pass from Wootton Fitzpaine in the west. Livestock experts were represented, including R.N. Tory of Anderson Manor, who later contributed to the technical development and livestock improvement sub-committee of the Second World War WAEC, and James Ismay from Iwerne, whose work on farm accounts was used by the Board of Agriculture. T.R. Ferris, Chief Executive Officer on Dorset's CAEC since 1917, was appointed County Director of Agriculture, in which capacity he was later appointed as Executive Officer on the WAEC in 1939 for the duration of the Second World War. Professor H. A. D. Neville brought expertise from University College, Reading. Agricultural labourers were represented by F. C. James, from the National Agricultural Labourers' and Rural Workers' Union (later the National Union of Agricultural Workers). James also represented NUAW workers on the WAEC from September 1939 to his death in February 1946; by this time he was a Justice of the Peace.

One of the first jobs of the Dorset CAC was to supervise the Agriculture Act of 1920, which controlled prices and wages and kept rentals at the 1915 level. If all of this smacked of interference by the state and the nationalization of agriculture, at least it was administered by the county's own landowners and tenant farmers. But a year later Part I of the Agriculture Act was repealed by Lloyd George in the face of a prospective huge deficiency payment of some £80 million. Guaranteed minimum prices, minimum wage levels, and state interference in agriculture collapsed together. The 'Great Betrayal', as it was called, adversely affected all levels – landowner, tenant and labourer.<sup>16</sup> Agricultural Wages Board data showed that the average

<sup>15</sup> *Report of the Agricultural Policy Sub-Committee appointed in August, 1916, to consider and report upon the methods of effecting an increase in the home-grown food supplies, having regard to the need of such increases in the interest of national security.* (Selborne Committee, Cmd 8506, 1917).

<sup>16</sup> Edith Whetham, 'The Agriculture Act 1920 and its repeal – the 'Great Betrayal'', *AgHR* 22 (1974), pp.36–49; E.C. Penning-Rowsell, 'Who 'betrayed' whom? Power and politics in the 1920/21 agricultural crisis', *AgHR* 45 (1997), pp.176–94.

wages of labourers fell from 42s. in 1921 to 28s. 6d. in 1942, which was less than the cost of rent, fuel and food based on 1918 figures.<sup>17</sup> The exodus of labourers from the land accelerated, made worse by the difficulties posed by tied cottages. Dorset's population fell in over half of its rural parishes between the censuses of 1921 and 1931, the losses of its skilled workers being particularly keenly felt.

Few advocated wholesale protection by import duty, despite the threat to many arable farmers' livelihoods as imported grain undercut their prices. Scapegoats were sought: the Liberal Land Enquiry of 1923–5 blamed landowners for not promoting co-operative mechanisms, and for undercapitalizing their land, and suggested that many were more concerned with the 'false values' of field sports, the mansion, and its pleasure grounds than farming. 'High amenity values make for low agricultural returns', thundered the Enquiry.<sup>18</sup>

Nationalization of land was to appear in several guises as the policy of both Liberal and Labour parties to solve the problems of ailing agriculture. The Liberal Party, concerned with the economic decline in farming between wars and the failure of landowners to deal with it, discussed the state ownership of freeholds and the payment of compensation to the landlords. But both the Labour and Liberal parties gradually pulled away from championing smallholdings and Land Settlement, with their emphasis on character building, democracy and the value of the small man. Instead, by the second half of the 1930s, nationalization was again perceived as the way to heal ailing agriculture, but this time as a way of providing an important industry with state support by enabling the large improvements needed for efficient farming – investment in fertilizers, drainage schemes, and the reorganization of boundaries to accommodate large machinery. C.S.Orwin, the Director of the Agricultural Economics Research Unit at Oxford, had made the case for large farms in 1930, as did Astor and Rowntree in 1938.<sup>19</sup> The Liberal Land Committee proposed that landowners would become cultivating tenants, and county councils would administer farming, following patterns adopted by the wartime Agricultural Committees. In Dorset, not only was there underinvestment by farmers, there was little commercial provision for agricultural needs. With so few tractors in the county, *Kelly's Directory* for 1935 showed no agricultural engineers, tractor distributors or makers of tractor mowers and ploughs, and farmers had to obtain their cattle food, fertilizers and fencing from outside the county.

During the later 1930s conditions for Dorset farmers scarcely improved. Agriculture was helped on a commodity to commodity basis, with a range of subsidies, marketing schemes, import restrictions and trade agreements. The tenacity of Dorset's landowners was now tested to the full: some survived with land in hand; others attempted to sell off their estates, but much land remained unsold, or was disposed of in small parcels. There was, however, some investment: old-established landowners such as the Portmans around Blandford and the Digbys of Sherborne upgraded their cottages, and others, such as incomers Ernest Debenham of the Bladen Estate and James Ismay of Iwerne, built high quality new housing for their tenants.

<sup>17</sup> C.S.Orwin and B.I.Felton, 'A century of wages and earnings', *JRASE* 92 (1931), pp. 250, 253.

<sup>18</sup> Liberal Land Committee, *The land and the nation*, 1923–5 (1925), p. 190.

<sup>19</sup> C.S.Orwin, *The future of farming* (1930), and id., *Speed the plough* (1942); Viscount Astor and Seeborn Rowntree, *British agriculture: the principles of future policy* (1938).

Debenham was created a baronet in 1931 for services to agriculture, especially scientific farming methods. A firm believer in economies of scale in order to compete effectively and avoid draconian state intervention, he set up five companies to deal with raising and marketing sheep, pigs, cattle and poultry, to produce cattle food, and to make produce from surplus milk. Ismay improved livestock, especially cattle. Both Debenham and Ismay continued to pour their own personal resources into agricultural improvement, Debenham from retailing, and Ismay from shipping. Ismay was regarded by the Liberal Land Committee as one of the few good landlords and admirable farmers. But the depression of 1929 put paid to their endeavours and business failure probably accelerated James Ismay's death in 1930. Debenham attempted to sell 5000 acres of the Bladen Estate in 1943 and there were further sales in 1952 after Sir Ernest's death.<sup>20</sup>

As the fortunes of the Liberal Party continued to wane in the 1930s and those of the Labour Party rose, the question of rural land nationalization stayed firmly on the latter's agenda, although the Party was beginning to abandon the idea that this would remove unemployment and help the agricultural labourer. In contrast, Conservative thinking was dominated by the Country Landowners' Association, which drew attention to the threats posed by nationalization, with public farming corporations providing 'farming on Russian lines'. In 1937 it offered a guide to the Labour Party's policy in its journal.<sup>21</sup> As Tichelar points out, the War 'added significant weight to demands for state intervention, centralized land-use planning, [and] land nationalization'. Academic writers such as Orwin and Sir A. Daniel Hall, the Ministry of Agriculture's Chief Scientific Adviser, advocated state ownership of land.<sup>22</sup> State ownership would enable large, mechanized farms and give economies of scale, and the use of chemical fertilizers would make crop rotations unnecessary. There would be a smaller work force and a move away from mixed farming.

However, in wartime conditions the Labour movement began to recognize that the management of agricultural areas by the CWAECs, with their considerable powers, seemed an effective alternative to wholesale nationalization. Clearly farmers of all description were being successfully energized by the CWAECs into providing food in the face of enemy blockades. Meanwhile, two government reports of 1942 also sidestepped land nationalization. The Uthwatt Expert Committee on Compensation and Betterment recommended the nationalization of development rights in the countryside, not the wholesale nationalization of land; and the Scott Report on Land Utilization in Rural Areas saw the conservation of the countryside as a corollary of good farming, arguing that government bodies at local and central levels should help to restore country life. There should be no other forms of industry in the countryside, which might turn it into a form of 'diluted suburbia'.<sup>23</sup>

<sup>20</sup> Janet Waymark, 'Landed estates in Dorset since 1870: their survival and influence', (unpublished PhD thesis, University of London, 1995), pp. 108–21.

<sup>21</sup> Anon., 'Socialist land policy', *JCLA* 18 (1937), pp. 267–96.

<sup>22</sup> M. Tichelar, 'The Labour Party, agricultural policy and the retreat from rural land nationalization during the Second World War', *AgHR* 51 (2003), p. 211; id., 'The Scott Report and the Labour Party: The protection of the

countryside during the Second World War', *Rural Hist.* 15 (2004), pp. 171–2.

<sup>23</sup> Report on the Expert Committee on Compensation and Betterment, interim (Cmd 6291, 1941) and final (Cmd 6386, 1942); Tichelar, 'Labour Party and rural land nationalization', p. 217; Committee on Land Utilization in Rural Areas (Cmd 6378, 1942); Tichelar, 'Scott Report', p. 172.



At the same time, a disparate group of right-wing writers, landowners and academics was making known its views on nationalization, estate ownership, and organic farming. The group was led by Dorset landowner Rolf Gardiner, whose uncle, the composer Henry Balfour Gardiner, had given him Gore Farm, Ashmore, in 1927, which he revived. He then bought Springhead at Fontmell Magna in 1933. His near-mystical involvement with nature and the countryside led him to support organic farming, and his work camps for students and unemployed miners helped to reclaim his land by planting trees to arrest soil erosion and clear scrub. He attracted like minds, including the Hampshire landowner Gerard Wallop, later the Earl of Portsmouth, the historian Arthur Bryant, and the writer H.J. Massingham, though the latter was disturbed by Gardiner's pro-German sympathies and 'Teutonic extremism'. His circle, known as the 'Kinship in Husbandry', flourished between 1941 and 1945, and looked to revitalize rural England and lead the country towards a 'northern European cultural federation'.<sup>24</sup> The Kinship's views appeared widely in the press; Gardiner's and Wallop's autocratic, hierarchical plans for landed estates, reading as if written by the same pen, were the extreme opposite of those posited by Orwin and Hall. Gardiner rejected nationalization, with its promotion of modernization and machinery, as 'self-destructive machine-lust', whilst Lymington saw the 'commercial and industrial values of our time' ... leading to 'the ultimate antheap of totalitarian dictatorship'.<sup>25</sup> Gardiner's preference for countryside and agriculture to be run holistically by landed estates appeared in a memorandum to the Scott Report as 'Estates as Pivots of Regional Development'. Estates and their mansions were to become regional centres to train young men to be landowners, who would revive crafts, encourage smallholders, and become the focus of every rural activity. Farming would, however, remain small-scale, mixed, and labour intensive.<sup>26</sup> Despite his convictions on the need for rural industry, Gardiner was sacked by Dorset's WAEC for his refusal to implement further machinery for the processing of flax at the mill on the River Brit at Slape Manor, south of Netherbury, for use in Bridport's rope industry.<sup>27</sup>

### III

Into the several strands of opinion as to the need for state intervention to secure a decent agricultural future came the emergency of war, and with it the twin threats to landowners of military requisition of land (and country houses) and the superimposition of the WAECs onto Dorset's rural society. The nucleus of the main committee, the Dorset WAEC, was appointed by the Ministry of Agriculture, which had the power to appoint up to a third of the members, and

<sup>24</sup> P. Conford, 'Organic society: agriculture and radical politics in the career of Gerard Wallop, ninth Earl of Portsmouth (1898–1984)', *AgHR* 53 (2005), pp. 78–96; R. Moore-Colyer and P. Conford, 'A "secret society"? The internal relations of the Kinship in Husbandry, 1941–52', *Rural Hist.* 15 (2004), pp. 189–206. And see also the chapter by Conford in this volume.

<sup>25</sup> H.J. Massingham (ed.), *England and the farmer* (1941); Earl of Portsmouth (ed.), *Alternative to death: the relationship between soil, family and community* (1943), p. 62; Rolf Gardiner, *England herself. Ventures in*

*rural restoration* (1943), p. 85.

<sup>26</sup> Rolf Gardiner, *England herself*, App. 3, pp. 153–64; P. Conford, 'The myth of neglect: responses to the early organic movement, 1930–1950', *AgHR* 50 (2002), pp. 89–106.

<sup>27</sup> Rolf Gardiner, 'A rural industry', in *England herself*, pp. 98–124; TNA, MAF 80/545, Dorset WAEC Cultivations Committee [hereafter CC], 19 Aug., 30 Sept. 1942; R.J. Moore-Colyer, 'Rolf Gardiner, English patriot, and the Council for the Church and Countryside', *AgHR* 49 (2001), pp. 187–209.



which inevitably included men from the existing County Agricultural Committee. The Dorset WAEC met for the first time just before the official outbreak of war, on 29 August 1939. Thereafter they continued to meet fortnightly at the Shire Hall, Dorchester. Its members, including the chairman designate, were gentry landowners or tenant farmers such as H. W. Dufosse with his 600 acres at Stalbridge Park, Sturminster Newton, but none was drawn from amongst the larger landowning class whose estates encompassed more than 1000 acres. Only two of the committee, W. J. Brymer, JP, of Ilsington House, Puddleton, and Captain O. C. Bragge from Exminster across the Devon border, were referred to as landowners. They were to be joined by Mrs E. Aston from Iwerne Minster as representative of the WLA, F. C. James, as the member with close association with agricultural labour organizations, a commissioner, L. H. Way from Reading, and later by a liaison officer from the Ministry of Agriculture, Anthony Hurd. Very importantly there was also the executive officer, T. R. Ferris, who was based at the Shire Hall. From 1943, following the death of the first chairman, W. W. Sampson, Humphrey Gifford from Durweston and a tenant farmer on the Portman estate, took over. As county chairman of the NFU in 1941 and 1942, a JP and a chairman of the Blandford bench, and married to the secretary of the Dorset WLA, he was an active and efficient organizer of the WAEC, and indeed continued to chair the post-war Dorset County Agricultural Executive Committee which replaced the WAEC.<sup>28</sup>

Dorset's farming had reflected the problems of English farming more generally in the early part of the twentieth century. Would the Dorset WAEC, therefore, be drawn into questions of the state ownership of the land? With powers to direct or coerce farmers, to remove tenants or owner-occupiers from badly farmed land, and to replace them with chosen cultivators, much rested on the attitude of the members of the Dorset WAEC and its sub-committees who were to run the county's farming. Given that the overall purpose of the WAEC was to increase food production, the appointment of a Cultivations sub-committee was high on the agenda of the first meeting. A powerful arm of the WAEC, the Cultivations sub-committee was composed of the executive committee, and the chairmen of the five district committees, namely J. Wyndham Hull of Stinsford for Dorchester, Cerne and Weymouth; E. Holloway of Halstock for Beaminster and Bridport; H. N. Warren of Bishop's Caundle for Sturminster Newton and Sherborne; H. Gifford from Durweston for Shaftesbury and Blandford; and J. Strang of Bere Regis for Wimborne, Wareham and rural parts of Poole.<sup>29</sup> Again, this committee was composed of gentry landowners and long-standing tenant farmers with hundreds of acres or less, but not the larger landowners of the interwar County Agricultural Committee who possessed thousands of acres. There is no evidence to suggest that these men were deliberately excluded; they may, like Ernest Debenham, have preferred to stay out of local politics, or were preparing to fight abroad, as was Baron Alington of Crichel, or have been too busy with their estates.<sup>30</sup> But there were limits to this democratization, and despite the protests of F. C. James, no agricultural labourers were to be appointed to the district committees. In common with other counties, Dorset also had an array of other sub-committees, dealing with such issues as the management of supplies, labour, technical development, feeding-stuffs, machinery, land drainage and water supplies, livestock,

<sup>28</sup> TNA, MAF 39/246-7; A. Hosford, *Recollections of Humphrey Gifford, CBE, JP, a Dorset farmer* (1987).

<sup>29</sup> TNA, MAF 80/531, CC, 28 Aug. 1939.

<sup>30</sup> Pers. Comm. Sir Gilbert Debenham to J. D. Waymark, 27 Mar. 1988.

bee disease, and horticulture. The importance of dairying to the county was also reflected in the establishment of the Dorset Milk Council, with 16 members and seven officials, as a separate sub-committee answerable to the WAEC.<sup>31</sup>

The executive committee was anxious to make a start, urging its district committees to move swiftly with the job of recording, on six-inch maps, land at present in permanent pasture or long leys suitable for arable cultivation. Any farmer who ploughed grass which had been down for seven years or more before the end of the year would qualify for a subsidy of £2 per acre under the Agricultural Development Act of 1939. Dorset was supposed to find 30,000 acres of grassland to plough up for the 1940 harvest. This figure represented just half the decrease in arable acreage from 1918 to 1938. In fact, in common with most other counties, the target was exceeded, the county recording an area of 31,500 acres newly ploughed between June 1939 and May 1940.<sup>32</sup>

Concerns were raised with the executive committee over the amounts of land being requisitioned for military use – for training, gunnery ranges, searchlights, tented camp sites, and airfields. The Duchy of Cornwall protested strongly against the requisitioning of parts of Middle Farm, Fordington, Dorchester; Duchy land had been used as a prisoner-of-war camp in the First World War. However the Duchy was prepared to discuss a hutted campsite for Martinstown, south of Dorchester.<sup>33</sup> The WAECs were also being urged to co-operate with the military in the provision of manpower, but by February 1940 the building of camps and military hospitals was threatening to drain agricultural workers from the land, and in March the Air Ministry was taking over farms with seemingly no reference to the Ministry of Agriculture. The War Office, unrepentant, later claimed they were entitled to stay on the land they had taken over and improved for three years, in order to claim betterment.<sup>34</sup> Though concerned at the turn of events, any discussion with the military must have taken place privately, as none is minuted by the committee, which had to balance the dismay of its members with its feelings of patriotism and the overriding requirements of the services. Here, certainly, no threat to landownership was being posed by the actions of the WAEC, but neither was it able to defend its landowners and farmers from the predations of the military, since all existing legal procedures were superseded by the Defence Regulations. In Dorset, as elsewhere, the agricultural manpower shortage was thrown into focus as the Government was exhorting farmers to attempt to produce from a very much larger arable acreage, and also to increase productivity from the existing arable land. Thousands more acres of potatoes were required, more vegetables, and more grain. Every farm would have to attempt to be as self-supporting as possible. In order to achieve this, the Dorset Executive Committee set in motion the procedure for an ongoing inspection of farms. The National Farm Survey took place between 1941 and 1943, with the district committee members visiting every farm and holding over five acres, noting the terms of its tenure and recording its stock of equipment and livestock, assessing its fertility, water and electricity supplies, and judging whether weeds and pests were under control. Farms were classified as A, B, and C in the initial survey in 1940, depending largely on the state of the land. But in the main Farm Survey

<sup>31</sup> TNA, MAF 39/247.

<sup>32</sup> TNA, MAF 80/531, Dorset WAEC [hereafter WAEC], 9 Sept. 1939; *FW*, 31 May 1940, p.17.

<sup>33</sup> TNA, MAF 80/531, WAEC, 20 Mar. 1940.

<sup>34</sup> *Ibid.*, 21 June 1940.

after 1941, the management skills of the farmer were similarly assessed and it is clear that there was great discomfort about being classified as a 'C' farmer, as it might, for example in Dorset, come with the designation of 'incurrible [bad] milk producer'. This category of farmer was carefully monitored and re-visited from time to time to assess progress. In Dorset the farm survey highlighted the lack of electricity – only a quarter of farms had public or private supplies – and the great dearth of farm machinery, particularly tractors.<sup>35</sup> Though the survey's figures do not suggest that Dorset's water supplies were significantly worse than other counties, it is clear that the majority of farmers classified as inadequate milk producers did in fact suffer from poor water supplies.

The Cultivations sub-committee continued the task of evaluating the efficiency of the farms in their district, with members of the executive committee leading the more difficult cases. The minutes of the Cultivations sub-committee underline the lack of infrastructure – poor buildings and a lack of a 'proper dairy', lack of water supply and contaminated water supplies to the holding, and inadequate cooling facilities – which led to the classification of farmers as 'incurrible milk producers' and their possible subsequent dispossession if there was no improvement. Some undercapitalized farmers who had bought their land during the inter-war periods of estate selling may have had insufficient funds to make improvements. One way of alleviating this for those who still rented their holdings was that large landowners were told to invest in their tenants' farms. In 1943 Lord Digby of Minterne was checked to see whether 'steps [had been] taken to bring the dairy up to strength'. In 1944 the Pitt-Rivers estate was required to provide a 'proper dairy' for their tenant H. G. Trowbridge of Thornford – which they agreed they would do 'when they got the labour'.<sup>36</sup>

Throughout the War the Cultivations committee continued to record new and monitor previously identified 'incurrible' dairy farmers. If it was eventually decided that a man was making a bad job of farming, the executive committee would recommend to the Ministry of Agriculture that the ownership or tenancy should be ended. A landowner might be asked to find another tenant or to take over the farm himself, or an attempt might be made to amalgamate it with that of a nearby farmer. In some cases, as at Bloxworth and West Kingston, the committee sought to regain at least 'incurrible' status after farms had sunk to even poorer standards. By September 1941 the WAEC had 1100 acres in hand, and were advertising for a farm manager at £300 per annum. It does at least seem that in Dorset sanctions were even-handed, if more discreetly handled where the aristocracy were involved. In 1943, it was minuted 'that land [was] to be removed from the Earl of Sandwich at Powerstock'. By contrast, A. G. Joyce, of Whiteways Farm, Winterbourne Houghton, had his contract terminated with the Milk Marketing Board because his 'water supply was unsatisfactory and contaminated, his dairy buildings ramshackle and unfit for milk production and his yard a mess of mud and manure'.<sup>37</sup>

The Cultivations committee in Dorset, unlike most other counties which had a separate committee, also assumed responsibility for pest eradication, and here, as elsewhere, the Women's

<sup>35</sup> Ministry of Agriculture and Fisheries, *National Farm Survey of England and Wales, 1941–43: a summary report*, map 5, p. 64; map 6, p. 66; Table A17, p. 107.

<sup>36</sup> TNA, MAF 80/546, CC, 21 Apr. 1943; 5, 19 Jan.

1944.

<sup>37</sup> TNA, MAF 80/546, CC, 6 Jan. 1943; 80/548, CC, 21 Nov. 1945.

Land Army was drawn into the control of rats (Figures 4.1, 4.2). Landed estate owners repeatedly found themselves in trouble for not controlling vermin. Lord Digby was directed to control rats in the ricks at Minterne, Lady Salt to take action over deer damage on the Hook Estate in west Dorset, and Lords Ilchester and Digby and Sir Philip Colfox were served orders or directed to deal with rabbits on their estates.<sup>38</sup>

However, some of the titled landowners with considerable acreages moved in influential governmental circles. Lord Digby of Minterne, whose ricks had been damaged by vermin, had his prosecution dropped after the Ministry of Agriculture's solicitor intervened. His daughter Pamela was the daughter-in-law of Winston Churchill. Nevertheless, the committee served another 'rats order' on him in January 1944. The Cultivations committee was then persuaded to plough the land on the Sherborne Estate of Colonel F. J. B. Digby at Castleton, because of his lack of implements. Later both men were again rebuked by the committee for repeating their earlier offences, and Colonel Digby was reported to the Milk Marketing Board for feeding surplus milk to his stock and to a number of chow dogs!<sup>39</sup> The Cultivations committee showed themselves to be similarly persistent over the Earl of Ilchester. A visit to Melbury had presumably revealed a serious offence, and although neither the visit nor report was minuted in November 1943, a proposed course of action was agreed. Ilchester was later told to deal with his rabbits, to plough ten acres at Melbury Osmond, and to keep back three acres for a football field for the village. This was an unusual policy for a cultivations committee to follow, and appears to move beyond the normal remit and indeed to contain elements of land-use planning. Shortly afterwards the official solicitor for the Ministry of Agriculture intervened on behalf of the Earl, perhaps to challenge this committee directive.<sup>40</sup>

Much of the Cultivations committee's time was spent in allocating acreage targets for potatoes, grain, kale, sugar beet, root vegetables, and flax for the Bridport rope industry. They also had to deal with the allocation of government grants and manage scarce resources, whether fertilizers, Ministry allocations of tractors, petrol rations, coupons for protective clothing such as rubber boots for dairy, watercress and drainage workers, and even extra cheese rations for men without a base for a canteen, such as travelling blacksmiths and agricultural machinery maintenance engineers. In particular, the drainage of heavy Kimmeridge and Oxford Clays was enabled by such grants as the 1940 field drainage allowance of 50 per cent of the cost of tile drainage. The cost of clearing, liming and draining clay land could be as much as £20 to £30 per acre, and such grants enabled landowners on the clays of northern Dorset to improve and extend their farmlands. The Pitt-Rivers Estate was able to reclaim and turn to good arable use derelict clay land where thorn and scrub had become so dense that the 'shooting tenant complained that his dogs were unable to get through it'.<sup>41</sup>

<sup>38</sup> TNA, MAF 80/546, CC, 29 Jan. 1943; 18 Aug. 1943; 30 Aug. 1944; 15 Mar. 1944; 30 Aug. 1944. For more detail on pest eradication see the chapter by Sheail in this volume.

<sup>39</sup> TNA, MAF 80/547, CC, 20 Jan., 3 Feb., 17 Mar., 28 Apr. 1943; MAF 80/547, CC, 5 Jan. 1944.

<sup>40</sup> TNA, MAF 80/547, CC, 10 Nov. 1943; 19 Feb., 8 Nov.

1944; 4 Jan. 1945.

<sup>41</sup> T. R. Ferris and Ralph Wightman, 'Land reclamation in Dorset', *JRASE* 102 (1941), p. 117. Ralph Wightman (1901–71), who lived at Piddletrenthide, was District Committee member for Dorchester, Cerne and Weymouth; Bridport and Beaminster; and Blandford and Shaftesbury, and a well-known dialect broadcaster and writer.

T.R.Ferris, the County Director of Agriculture, and Ralph Wightman, both members of Dorset's WAEC, described in the 1941 *Journal of the Royal Agricultural Society of England* the reclamation carried out to increase food production. Large quantities of lime and fertilizers were made available to clear the heath-covered soils on the Bagshot Sands in the east. Chalk hilltops, perhaps never previously ploughed, had their thick mats of vegetation cleared with heavy cultivators, supplied by the Cultivations committee. The Farquharsons' Eastbury Estate in central Dorset was cleared of hundreds of acres of clay-with-flints on chalk downland, then on further chalk scrubland using tanks and bulldozers at a cost of £40 per acre. In this manner the landowner increased the agricultural potential of his estate, and tenants were able to crop the new land more intensively. But any financial help to tenants would also be reflected in improved conditions on the estates.<sup>42</sup>

Accommodation for agricultural labourers had also been a vexed question in Dorset throughout the nineteenth and early twentieth centuries. The Land Commissioner from the Ministry of Agriculture attended a Cultivations committee meeting at the beginning of January 1943, where it was agreed that Dorset needed at least 300 more cottages. Earlier arguments were rekindled about public funding of private rural housing which had been aired in the 1920s, and which had swung between on the one hand the Labour Party's refusal to give grants for tied housing (the Wheatley Act, 1924), as they saw this as state aid for private landowners, and on the other hand the Conservatives' Housing (Rural Workers) Act, 1926, under which landowners could collect a grant and/or a loan to upgrade their cottages, and pay a third of the total cost. This grant was very popular in Dorset, as in many rural areas, and the Act was extended to 1944.

Nevertheless, landowners were either slow or unwilling to build new cottages, blaming low returns on their capital outlay. The National Union of Agricultural Workers disliked tied cottages because of their depressive effect on wage levels. Landowners said they needed tied cottages for key workers and for farms in more remote areas. To break the stalemate, the Ministry of Agriculture put forward a scheme for council house provision for agricultural workers in 1943, suggesting four new houses in each of the seven Rural Districts in the county, a figure later increased. This was welcomed, though there was a long running argument between the Cultivations committee, which agreed with the Minister that the houses should be of the larger parlour variety, and the Rural Districts themselves, who did not. In this way the question of the tied cottage was avoided, and the stock of housing increased – though by a fraction of what was required.

Supplies of labour also had to be addressed. The Cultivations committee, with the Labour committee (which also operated from 1939 but which consisted of the members of the Executive Committee plus chairs of the district committees), channelled requests for the expansion of categories of reserved occupations, including thatchers and hurdlemakers, and from those with particular difficulties – for instance a son whose sick father could not work the land – to be spared call-up. Substitute labour was found from the armed forces: in 1942, the RAF, the Navy, the Dorset Home Guard and the WLA all helped to bring in the harvest.<sup>43</sup> The Labour Committee set up hostels for mobile gangs of workers: German prisoners of war were housed in encampments at Long Burton and Holnest, and Marnhull in north Dorset, and Italian prisoners

<sup>42</sup> Ibid., pp. 114–18.

<sup>43</sup> TNA, MAF 80/532, WAEC, 16 Sept. 1942.



at Motcombe, north of Shaftesbury. Prisoners were requested for drainage, ditching and rabbit catching in Wareham, Wimborne and Poole. German expertise in agriculture was certainly respected. The Labour sub-committee reported and subsequently followed up Sir Ernest Debenham's request for the return of Heinrich Rubens, a German doctor of agriculture and an experienced agronomist, who had been removed from research work at Debenham's estate at Bladen and interned, and also Miss L.M. Underwood's request for the return of Fritz Schlesinger to her farm at Lower Lillington, Sherborne. Schlesinger was from Grosgrusen Agricultural School in Germany and had been interned 24 hours after his arrival.<sup>44</sup>

#### IV

So, what effect did this infrastructure of committees under the general umbrella of the WAEC have on the landowning structure of Dorset? The First World War CAECs' powers of inspection of farms and compulsion had gone by 1922 and the inter-war CACs came rapidly to concentrate largely upon matters of education, smallholdings and new clean milk production policies. But in the late twenties and thirties many commentators agreed that farming was in disarray and that more stringent controls were required. Nationalization seemed a positive way forward, and by the beginning of the Second World War both the Liberal and Labour parties believed that larger farms, mechanization and the use of chemicals and pesticides would improve efficiency and productivity. To the small group in Dorset and Hampshire around Rolf Gardiner and the Earl of Portsmouth this was anathema, Gardiner seeing enlightened leadership by estate owners as a way of making England (and then Europe) strong. They rejected mechanization and scientific farming, claiming that organic farming reinforced man's relationship with the soil. Their views had little impact during the War, although as founder-members of the Soil Association, their influence in the post-war period was to be more keenly felt.

Output increased in Dorset through the Second World War. Due to the arrival on the market of land from those estates which had sold up, there were more small farmers who owned their farms in 1939 than 1914. Nevertheless, the mechanisms of the WAECs were seen as efficient in enabling the production of food, and by the end of the War nationalization no longer seemed to be a necessary step to take. The make-up of the body of the Dorset wartime sub-committees – mainly gentry and tenant farmers from middle-sized estates – was almost bound to favour its own, though they did not tolerate landowners who provided inadequate dairies, or neglected their land, or asked for preferential treatment in petrol allocations. Farming was now to be supported by grants and subsidies which were administered by the WAEC, and many efficient landowners used this support to develop their businesses and increase their profits and estates once more. Despite their backgrounds, the members were tough on farmers deemed to be inadequate; the slackers were cajoled into better farming practice, and the landowners relieved of poor tenants, though evictions were few.

<sup>44</sup> TNA, MAF 80/533, Dorset Estates Management Committee, 10 Nov. 1943; MAF 80/567, Dorset Labour Committee, 24 July 1940. The minute on Dr Rubens does not explicitly state that he had been interned, but that is the implication of the wording.



In these ways the WAEC could be said to have favoured the tenantry of the large estates, stemming the tide of early twentieth-century decline by attempting to force landlords to invest in tenanted property and cottages. But the administration of grants and subsidies provided only a holding operation for what the landed professions and estate owners saw as an under-subsidized industry, and sales by financially-distressed landowners continued throughout the War.

## V

Dorset landowners, like their counterparts elsewhere, had been to the same schools and universities as their supporters in parliament and in the coalition government of the Second World War, belonged to the same clubs, and socialized together. If most of the Dorset wartime committees were made up from the smaller landowning and larger tenant farming classes who supported the patriotic course of food production for the country's good, they would nevertheless be open to the influence of the larger landlords whose way of life their activities equally underpinned. State-directed farming, seen in some quarters as likely to lead to nationalization, changed its shape to that of a less dangerous animal, one which employed stringent controls which were not revoked until the Agriculture Act of 1958, but which improved the production of food, and prevented the total marginalization of the landed interest in Dorset. There was a feeling in some quarters that 'in spite of the shocking condition of many estates and the crisis atmosphere of a war, the Central Landowners' Association and their clients have on the whole got away with it'.<sup>45</sup> The Dorset WAEC had proven itself to be the wartime keeper, not the poacher, of the landed estate.

<sup>45</sup> F.W.Bateson, 'The problem stated' in id. (ed.), *Towards a socialist agriculture: studies by a group of Fabians* (1946), p.7.

# The dispossession of farmers in England and Wales during and after the Second World War

by Brian Short

## Abstract

The 'War Ags' (CWAECs) were a pronounced feature of the government's wartime food production strategy, designed to boost productivity and act as a liasing body between Whitehall and the farmer. They have been hailed as one of the great wartime successes. However, not all have agreed: there were farmers who were aggrieved to receive orders with which they struggled to comply, and there were others whose lack of ability or willingness to comply left them open to the CWAEC's powers of dispossession, in part or whole. This chapter examines the dispossession of farmers by the CWAECs and their successors, the CAECs, in and after the War at three spatial levels, the national, the regional and the individual farm.

Memories of the 'War Ags' persist and still find their way into the media on occasion, as they did into the novels of the later 1940s and early 1950s.<sup>1</sup> During the first week of September 2002, listeners to the long-running radio soap opera *The Archers* heard Phil Archer and Jennifer Aldridge reminiscing over Dan Archer's diary for 1940, which detailed some of his activities whilst serving on the Dorsetshire County War Agricultural Executive Committee (CWAEC). Apparently, Joe Grundy complained about the committee, whilst Walter Gabriel, whose distinctive voice was known even to those who were not otherwise aficionados of the programme, had to be dealt with by Dan for having a field full of docks and thistles. The programme told listeners how the two men began discussing the field over a glass of home-brew and finished getting drunk together. In this chapter, the activities and relations of the CWAECs will be analysed, and in particular their role in the dispossession of farmers from their land, a contentious issue that, although relatively well-known, was little discussed in the heat of war, but whose impact has lingered, especially with the dispossessed farmers and their relatives. Indeed, even after the War, the issue continued to rankle as the powers of dispossession remained in force until repealed in the Agriculture Act of 1958. More particularly the chapter will examine dispossession at three different scales: the national level, the regional and the local. Each scale has its own data sources, which are discussed, and each brings its own perspective to bear. So were the CWAECs as benign and neighbourly as their representation on the *The Archers* would have us believe? Or did their behaviour amount to what one critical account has called 'a betrayal of the fundamental liberties of the British people.'<sup>2</sup>

<sup>1</sup> See, for example, J. Moore *The blue field* (1948); A. G. Street, *Shameful harvest* (1952).

<sup>2</sup> FRA, *Living casualties (the dispossessed farmer)* (1945), p. 4.

## I

Established immediately on the outbreak of war under Defence Regulation 49, the committees held initial meetings as soon as possible, their chairmen and executive officers having already been appointed. Thus we find, for example, that the East Sussex WAEC met for the first time on 8 September and continued to meet weekly thereafter, whilst the Cuckfield District Committee first met on 13 September.<sup>3</sup> It is clear, however, that some committees had met unofficially prior to the outbreak of war, and a few had already undertaken inspections. Their meetings continued throughout the War, and were minuted.<sup>4</sup> Meetings of the various sub-committees were similarly minuted and many survive at the National Archives where they are now open for inspection, having been subject to a 50-year closure. The structure of the county committees is set out in Figure 12.1. The district committees, the main points of contact with the working farmers, were organized on a rural district or petty sessional basis.

The received view derived from official accounts is that the committees carried out their task of ensuring continuity in British food supplies with great success. Indeed, the decision to re-establish the committees (which had been instituted at a late stage in the Great War) and to have them operating as early as possible, and in as devolved a fashion as possible, has been seen by some commentators as one of the War's major administrative successes. The inclusion on the CWAECs of members of the inter-war county agricultural committees also ensured that there were many people who had a good knowledge of farming conditions within their counties. Murray's official account of wartime agriculture noted the 'crusading enthusiasm' of this great triumph of organization, devotion, and harmonious cooperation.<sup>5</sup> The East Sussex WAEC prided itself as early as December 1940 on the fact that 'Although we have wide and almost unlimited powers we have always sought the co-operation of the farmers and this co-operation has been given in a most willing spirit.'<sup>6</sup> Here was an example of 'vigorous democracy' in the WAEC's encouragement of good practice. Many of those involved at the time felt similarly that the committees had worked to the very best of their abilities. Nigel Harvey, buildings officer on the Oxfordshire committee for example, thought the Oxfordshire committee a 'pervasive influence', working in closed sessions and very discreet. Members had to declare their interests (which everybody knew anyway), and he heard of no complaints or nepotism, and all knew that the Land Commissioner, the senior local liaison agent of the Ministry, would anyway have been very severe on misconduct. His experience of Oxfordshire was thus generally very positive. Nevertheless, all was improvised, rushed, and busy.<sup>7</sup> Looking back over the war years, L. Dudley Stamp wrote in 1947 that 'the farmer has come to look upon the County War Agricultural Committee and its officers as his friends and counsellors'.<sup>8</sup>

However, not all shared such positive views. Older farmers, having suffered years of depression,

<sup>3</sup> TNA, MAF 80/2854. These are the only district committee minutes available for Sussex at The National Archives, indicating that gaps do occur. However, the Brighton sub-committee minutes can be seen at the East Sussex RO, R/C/10/1.

<sup>4</sup> TNA, MAF 80.

<sup>5</sup> Murray, *Agriculture*, p. 339.

<sup>6</sup> *Sussex Express and County Herald*, 6 Dec. 1940, p. 3.

<sup>7</sup> Interview with the late Nigel Harvey, 15 Feb. 1995. The role of the Land Commissioner is discussed in Short *et al.*, *National Farm Survey*, pp. 50–52.

<sup>8</sup> L.D. Stamp, 'Wartime changes in British agriculture', *Geographical J.* 109 (1947), p. 50.

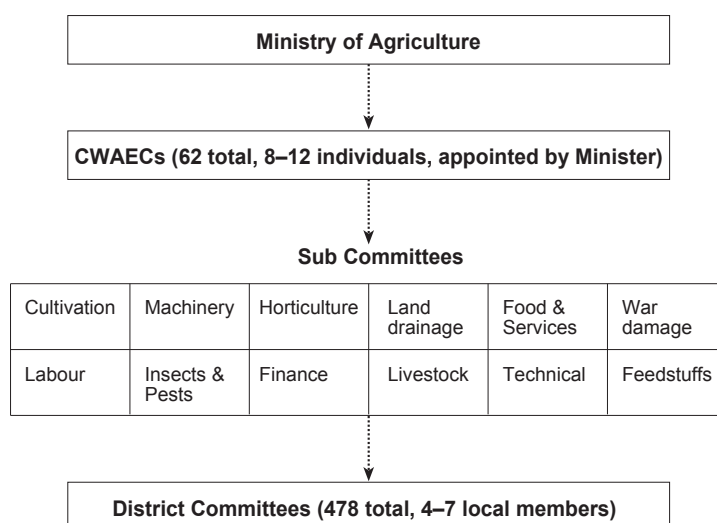


FIGURE 12.1. The structure of the County War Agricultural Executive Committees in England and Wales.

sometimes resented instructions from younger men; many committee members were over-zealous, as was apparently the case in Essex where at least one district committee and the executive committee were often at odds about courses of action.<sup>9</sup> Farmers were often suspicious of the grading systems employed by the committees to discriminate between A, B and C farmers, which might leave the C farmers very vulnerable. Sometimes it was felt that the committee members were failed farmers themselves, and, in the words of Frank Sykes, ‘essentially fascist’.<sup>10</sup> Wentworth Day, a writer for *The Field* in the 1930s, reported cases of ‘bullying, petty feuds, jobbery and favouritism’, but his views were widely discredited because of his pro-fascist ideas and emotive writing style.<sup>11</sup> There was no appeal for the farmers other than to the WAEC itself; and the National Farmers’ Union was seen to be behind the oppressive programme, as indeed it largely was, in order to secure government promises for guaranteed prices and stability after the War. As John Blishen wrote of his farmworker: ‘Bert took a simple view of War Ag officials. They were all failed farmers or opportunists with dubiously relevant backgrounds who had wormed their way into indefensible jobs’.<sup>12</sup> Sir John Winnifreth noted that the operations ‘threw the door wide open to jobbery, favouritism [and] nepotism’. And although Whetham recalled that the membership of the committees came cheaply because they were volunteers, the overall cost in a year such as 1942 still amounted to £11.8 million, as against an income of £4.75 million.<sup>13</sup> Murray

<sup>9</sup> R.N. Sadler, *Sunshine and showers: one hundred years in the life of an Essex farming family* (1988), pp. 68–9.

<sup>10</sup> F. Sykes, *This farming business* (1944), pp. 119–20.

<sup>11</sup> J. Wentworth Day, *Marshland adventure* (1950), p. 40.

<sup>12</sup> J. Blishen, *A cack-handed war* (1972), pp. 38–9.

<sup>13</sup> J. Winnifreth, *The Ministry of Agriculture, Fisheries and Food* (1962); E. Whetham, ‘Agricultural policy and food production’ (typescript draft in TNA, CAB 102/325, with amendments by officials such as J.H. Kirk); R.S. Hudson in parliamentary reply, see *PD Commons*, 400, 19 May 1944, cols. 543–8. See Section V of this chapter for more details on the costs of the CWAECs.

cites their expenditure over the five years 1940–41 to 1944–5 as exceeding receipts by £27 million. But increased food production was, at this juncture, to be at all costs.

Nevertheless, by November 1940, more than a year into the War, many farmers were still lacking the necessary cash or credit, or the knowledge and initiative, to make their farms more productive. Each county was allocated a production quota of land to be ploughed for arable crops or to be reseeded. It was hoped that the necessary plough-up targets would be achieved voluntarily but the Minister, as set out in County Circulars 378 and 442, was prepared to take more forceful measures if required by the CWAECs. The comprehensive powers bestowed on the committees during the War through the Defence Regulations therefore included the dispossession of owners (Defence Regulation 51) and tenants (Defence Regulation 62) where the WAEC felt it necessary to increase food production.<sup>14</sup> Initially, procedures for the WAECs taking such possession or insisting on a change of tenant were very slow because of the legal formalities connected with valuation and compensation. The general outline of the dispossession process, somewhat simplified and not allowing for repeats of any parts of the procedure, is shown in Figure 12.2.<sup>15</sup>

It also became clear that not all committees felt comfortable with or were prepared to wield their new-found powers to the full. For many, the new rules of wartime farming seemed too draconian, and although the committees could now undertake the necessary farm work, they might not be certain that they would recoup the full costs.<sup>16</sup> There were some resignations, and in December 1940 the Ministry felt it appropriate to appoint Liaison Officers, including such eminent men as Earl De La Warr and Anthony Hurd, to ease the flow of communication between Whitehall and the committees. The Minister, R. S. Hudson visited perhaps six or eight committees per month to exhort, cajole and inform. He addressed the misgivings at a meeting of the Council of Agriculture in December 1942. 'I have still to find one case of injustice. Hardship, yes; but we could not carry on a totalitarian war without hardships'.<sup>17</sup>

At the end of the War, there was a general consensus that the CWAECs had done a good job and that their continuation was vital for the post-war development of agriculture. As the Conservatives said in their election manifesto in 1945,

occupiers and owners of agricultural land must maintain a reasonable standard of good husbandry and estate management ... the wartime directions and controls will be progressively reduced as our food situation improves and consequently the functions of the County Agricultural Executive Committees will progressively be limited to that of affording leadership, help and advice.<sup>18</sup>

<sup>14</sup> The Emergency Powers (Defence) Act, 24 Aug. 1939.

<sup>15</sup> The termination of tenancies procedure is well demonstrated for West Sussex in the *Weekly News Letter* sent out to the West Sussex WAEC members. The main processes were 1. Report by District Commissioner to Executive Committee; 2. Visit, by appointment, to the holding, by members of Executive Committee; 3. Time allowed for representations to Executive Committee as to why

the decision should not come into effect; 4. Application by Executive Committee to Minister for a termination; West Sussex RO, papers of J. A. Hunt, WDC/AG4/1/1.

<sup>16</sup> Murray, *Agriculture*, pp. 113, 303, 326; A. Hurd, *A farmer in Whitehall* (1951), pp. 124–7.

<sup>17</sup> Murray, *Agriculture*, p. 303.

<sup>18</sup> F. W. S. Craig (ed.), *British general election manifestos, 1900–1974* (1975), pp. 116–7.

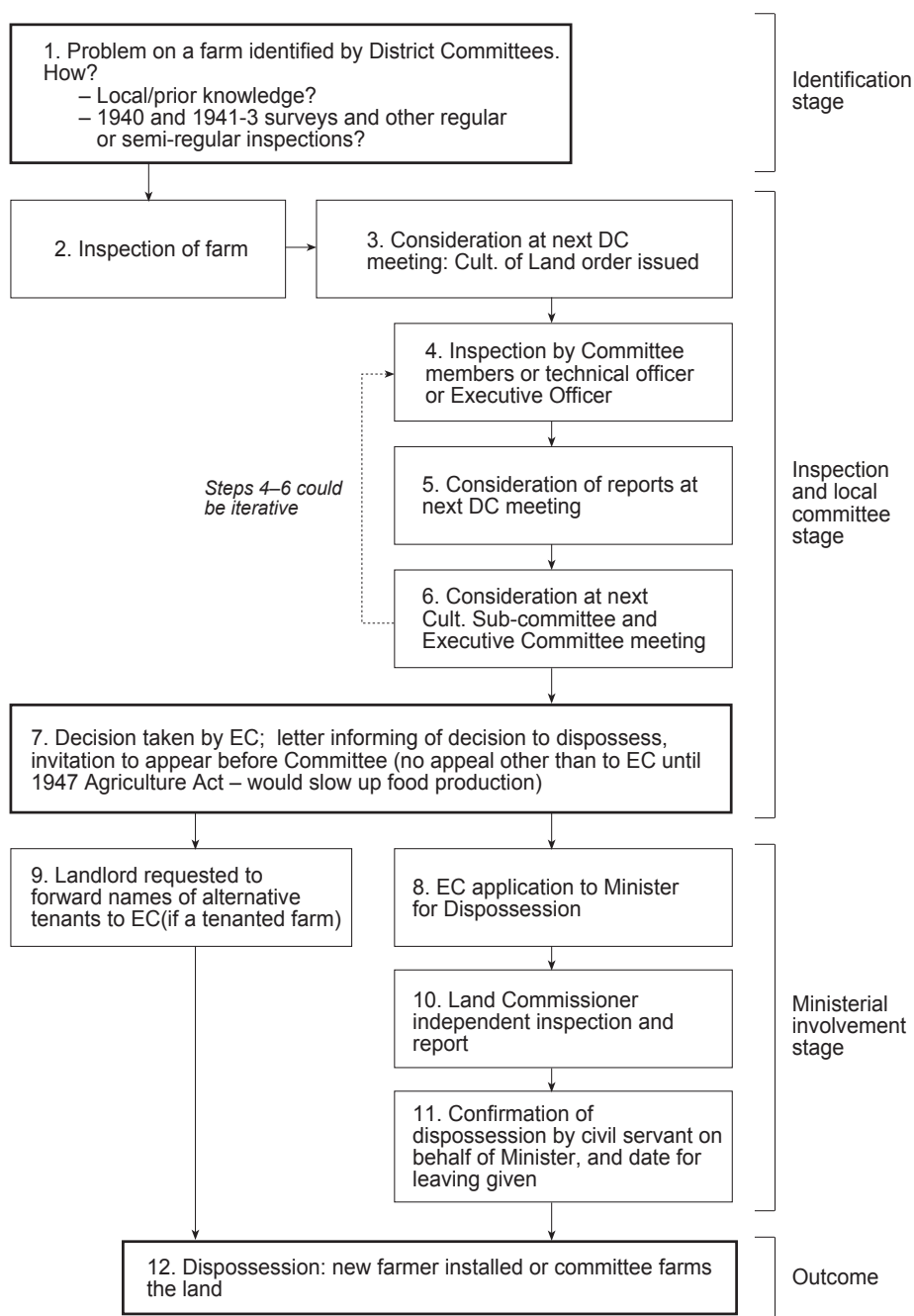


FIGURE 12.2. 'Agriculture's war casualties': the process chain for dispossession.



The Labour party manifesto said, in fuller but similar terms

In war time the County War Executive Committees have organised production ... They have been the means of increasing efficiency and have given much practical assistance, particularly to the small farmer. The Labour Party intends that, with suitable modifications and safeguards, their work shall continue in peacetime.

Our good farm lands are part of the wealth of the nation and that wealth should not be wasted. The land must be farmed, not starved. If a landlord cannot or will not provide proper facilities for his tenant farmers, the State should take over his land at a fair valuation. The people need food at prices they can afford to pay. This means that our food supplies will have to be planned. Never again should they be left at the mercy of the city financier or speculator. Instead there must be stable markets, to the great gain of both producer and consumer.<sup>19</sup>

F.W.Bateson, Fabian, Oxford don and ex-Buckinghamshire CWAEC official, thought the local control by CAECs beneficial: it eliminated the danger of 'farming from Whitehall'; and decisions about particular farms were made by people 'who know the land and the man personally'. 'The moral effect of the eviction of only a few incompetent farmers per annum can be very considerable.' However, 'it [the CAEC] tends to become a self-perpetuating clique' ... occasional acts of tyranny and a general indifference to the public interest [are] the almost inevitable outcomes.' He therefore favoured an *elected* and fully representative committee rather than what he saw in 1948 as 'a permanently reactionary majority' (including the NFU, Country Landowners' Association and County Council nominees, a solid Conservative bloc).<sup>20</sup>

To varying degrees then, a political consensus was arrived at which saw a degree of post-war state supervision in return for stable prices and incomes for farmers. The CWAECs continued until the 1947 Agriculture Act, then became CAECs, and their employees civil servants. The relentless farm gradings and visits also continued, still supported by the NFU, until the primary sanction of the 1947 Act, dispossession, was repealed in the Agriculture Act 1958.<sup>21</sup> The CAECs were then abolished under the Agriculture (miscellaneous provisions) Act 1972. However, the CWAEC legacy remained and was undoubtedly a significant factor in ensuring farmer compliance with the direction of agriculture under the 1947 Act.

<sup>19</sup> Ibid., p.128.

<sup>20</sup> F.W.Bateson, *Socialism and farming* (Fabian Society Challenge ser., 2, 1948), pp.19–22.

<sup>21</sup> The catalyst for the removal of these powers was the Crichel Down affair. There, 726 acres of land had been compulsorily purchased in 1937, and the owner (Commander Marten from the Crichel Estate) sought to buy it back after the War. But the Ministry had improved the land and then sold it to the Crown Estate in 1953. The case raised an outcry about 'creeping land nationalization', and the Minister took the view that government had no obligation to sell land back to its previous owner. In 1954 a public enquiry into the disposal of this land was held which revealed deception

and incompetence among civil servants over the selling of Crichel Down between government departments. The Minister, Sir Thomas Dugdale, resigned, and in the Agriculture Act 1958 the disciplinary provisions of the 1947 Act were abandoned. (P.Self and H.J.Storing, *The state and the farmer* (1962), pp.118–38). Furthermore, the Ministry was not, in future, to have both executive and adjudicatory functions. From now on there were no sanctions ('state-directed, farmer-operated') over farmers' obligations in face of their continuing benefits (Self and Storing, *State and the farmer*, pp.127–8; R.Douglas Brown, *The battle of Crichel Down* (1955), p.140; A.Clark, *Disposal of land at Crichel Down* (Cmd 9176. 1954).

## II

In analysing dispossession at the national scale there is danger of confusion in the interpretation of the available statistics, and an attempt to reconcile the various data sources is offered below. The official figures are those given by Murray, although his data is presented rather obscurely (Table 12.1). His table for the acreage taken into possession between 1939 and 1945 is cumulative, and shows the acreage retained in CWAEC possession. It also distinguishes between agricultural and non-agricultural land in 1945 in an approximately 3:1 ratio. Murray's data for cases of dispossession is annual, rather than cumulative, giving a total of 2742 cases of dispossession by 1945. The peak, in 1944, had been 2897, and adding his data for individual years gives us over 10,000 such cases over the war years. However, there is no definition of a 'case' in this respect (was it, for example, a case brought, the date of initiation or the date of conclusion) and presumably there might be double counting if a case was carried over from one year to the next. Murray gives no help with deciphering this table further, but does note that many of the cases of dispossession involved what were essentially accommodation paddocks, common and derelict land, playing fields, moorland and marsh, as well as land that was given over with the occupier's agreement. From Murray's table it appears that all the land taken into CWAEC possession between 1940 and 1944 was retained, and that only in 1945 was some relinquished.<sup>22</sup>

Anthony Hurd published a different set of data, amalgamating the main war years, and continuing the picture through to 1948 (Table 12.2). His data shows that in 1940–48 possession was taken of 374,965 acres. By 1945 he agrees that 355,942 acres of farmland had been taken into possession, with 2742 terminations. Clearly the two men were here using the same Ministry of Agriculture statistics. A third, and contemporary, set of data is provided by a reply by Hudson to a question in the House of Commons (Table 12.3). His data shows 2678 dispossessions up to the end of March 1945, which again agrees with the previous figures, but much greater detail is offered, including acreages of commons, sporting and derelict land, and the demonstration that 1205 of the tenancies terminated were for accommodation land, off-lying fields and farms, and land occupied by non-farmers. No dates were included in this reply but the assumption can be made that it dates from the inception of the CWAECs in September 1939 through to March 1945.<sup>23</sup>

Finally, data from the Ministry of Agriculture gives county-by-county returns to the Ministry for those holdings held by CWAECs for which an annual return was required for June agricultural census purposes.<sup>24</sup> The data are available only for the three years 1944–46, but offer a slightly lower total of holdings taken over, although the picture is internally consistent, with a gradual fall being shown in CWAEC holdings over the three years at the end of the War. The numbers of holdings for which CWAECs made returns were 1940 in 1944, 1990 in 1945 and 1824 in 1946.

The concept of farm dispossession is a slippery one. What exactly was taken over? For how long? What happened to it? Did it involve loss of the farmhouse as well? Did it include (or was it exclusively) non-farmland? Did it include voluntary as well as compulsory surrender of land

<sup>22</sup> Murray, *Agriculture*, p. 303.

<sup>24</sup> TNA, MAF 38/575.

<sup>23</sup> *PD Commons*, 409, 29 Mar. 1945, cols. 1560–61.

TABLE 12.1. Acreages of land taken into possession and tenancies terminated in England and Wales 1940-5, after Murray (1955).

<i>At 31 December</i>	<i>Total acres taken into possession since 1939</i>		<i>Acres retained in possession</i>		<i>Termination of tenancies (cases)</i>	<i>Termination of tenancies (acres)</i>
1940	84,338		84,338		700	65,448
1941	201,636		201,636		1517	137,399
1942	328,426		328,426		2401	216,059
1943	378,284		378,284		2771	241,724
1944	388,094		388,094		2897	248,826
	<i>Agricultural land</i>	<i>Non-agricultural land</i>	<i>Agricultural land</i>	<i>Non-agricultural land</i>		
1945	355,942	102,665	286,632	93,095	2742	228,172

Source: Murray, *Agriculture*, Table 28, p. 302.

TABLE 12.2. Possessions taken and tenancies terminated, after Hurd.

<i>Year</i>	<i>No.</i>	<i>acreage</i>
<i>Possession taken (including unoccupied land and parts of holdings)</i>		
1940-44	5350	344,413
1945	116	11,529
1946	102	9004
1947	86	6866
1948	58	3153
<i>Tenancy terminated</i>		
1940-44	2695	225,939
1945	47	2233
1946	32	3361
1947	15	1433
1948	4	43

Source: Hurd, *Farmer in Whitehall*, p. 128, App. III.

to the CWAECs? Hudson pointed out that the totals, at about 0.6 per cent, were low in relation to the overall numbers of farmers in the country, and he saw this figure as a vindication of farmers' skill plus CWAEC care and consideration.

For statistical purposes much clearly depended on the particular definition of dispossession adopted and the time-frame of the analysis. But enough consensus exists in these figures to say confidently that around 2700 farmers had their tenancies terminated during the War, with an acreage of around 228,000 acres, giving an average farm size of 83 acres. The Ministry of Agriculture June figure is probably lower because of the omission of holdings which were below the 5-acre threshold size for inclusion in the agricultural census. We should remember, of course, that the total number of dispossession orders was very much higher because many CWAECs

TABLE 12.3. Dispossessions according to R.S. Hudson.

	<i>Taking possession of land (including all cases where tenancies have also been terminated)</i>		<i>Termination of tenancies (excluding cases where possession has also been taken)</i>	
	<i>No. of cases</i>	<i>Acreage</i>	<i>No. of cases</i>	<i>Acreage</i>
Complete agricultural holding, including farmhouse	880	137,566	1473	184,257
Complete agricultural holding, except for farmhouse	424	40,366	–	–
Complete agricultural holding ‘farmed off’ by a non-resident occupier	578	43,591	–	–
Accommodation land, off farms, off lying-fields, and land occupied by persons other than farmers	–	–	1205	40,748
Portions of agricultural holdings not involving occupiers’ dispossession from farmhouses and remainder of holding	3436	120,077	–	–
Common land	322	24,237	–	–
Land (other than common land) normally used for sport and recreation	205	6329	–	–
Derelict land (e.g. building sites, marshes etc.) not included in above categories	2917	70,449	–	–
Totals of all cases	8762	442,615	2678	225,005

*Note:* In addition possession was taken of 589 empty houses (total area 63 acres) to provide accommodation for agricultural workers.

*Source:* R.S. Hudson in a reply in the House of Commons, *PD Commons*, 409, 29 Mar. 1945, cols. 1560–61.

had to take possession of portions of holdings, and did not need to eject the tenants. Hudson’s data gives a total of 3436 such cases by 1945. Hurd gave 5466 cases for the same period, but this probably included non-agricultural holdings as well; and Murray’s data are incompatible with Hurd and Hudson in this respect.

In the immediate post-war years, with the powers of dispossession continuing as Britain struggled with continuing food shortages and rationing, Hurd gives another 246 cases of dispossession, involving 19,003 acres and termination of another 51 tenancies, covering 4837 acres (average farm size 95 acres) in 1946–8. The Agricultural census returns note that in 1946 there were still 1824 holdings in CWAEC possession. And Self and Storing give another 400 cases of dispossession (both of estates and holdings, but not necessarily eviction in all cases) in the 10 years following the 1947 Agriculture Act (Table 12.4), and no fewer than 5000 supervision orders on farms or estates.<sup>25</sup>

The national picture that emerges from these emergency wartime and difficult post-war years is one in which between 1939 and 1957 a little over 3000 farmers were dispossessed from their farms (about one per cent of the national total of farms), and overall, for all classes of land, 8762 possession orders in wartime were followed by another 5011 supervision orders through to 1957, making 13,773 in total. This represents a huge effort on the part of local officials, but

<sup>25</sup> Self and Storing, *State and the farmer*, p. 238.

TABLE 12.4. Action taken under the Agriculture Act 1947.

Action	1948 (10 months)	1949	1950	1951	1952	1953	1954	1955	1956	1957	Total
Estate management supervision orders made under s.12 (1)	25	73	159	163	186	122	53	18	12	–	811
Husbandry supervision orders made under s.12 (1)	530	838	724	608	812	421	183	51	30	3	4200
Dispossession on grounds of bad estate management <sup>a</sup>	–	–	1	9	1	5	5	1	1	–	23
Dispossession on grounds of bad husbandry <sup>b</sup>	1	23	64	69	112	82	19	6	–	1	377

Notes:

<sup>a</sup> certificates made under s.16 enabling the Minister to purchase the land compulsorily

<sup>b</sup> orders made under s.17 terminating an occupier's interest or occupation

Source: Figures originally from MAFF, and published in Self and Storing, *State and the farmer*, App. B, p. 238.

is only the most easily visible (and controversial) part of their tasks, which were primarily to advise and cajole, not to dispossess. In many instances parts of farms were added to other holdings, some or all of which were controlled by the CWAECs. One Kent official noted in July 1944 that 'committee interests in holdings do not have any real permanency' and that numbers constantly fluctuated.<sup>26</sup>

### III

To date, no studies have been made of the regional impact of the committees' work. Maps have been published of the national impact of the plough-up campaign, both at national and county level, but no attempt has so far been made to discover the spatial variation in the work of the committees.<sup>27</sup> No real official and straightforward metric currently exists for this, but the willingness to push through cases of dispossession – surely the ultimate sanction – does provide some guide. The data for numbers of holdings in the possession of the CWAECs in 1944–46 can be plotted by county to offer a first indication of the pattern.

The highest absolute figures for numbers of dispossessions and the taking over of holdings by CWAECs are to be found in Surrey (177 by 1946) and Essex (151 in 1945 but falling to 82 in 1946). There were, by contrast, none at all in any year for the Holland Division of Lincolnshire, whilst many of the smaller county areas, such as Flintshire, Soke of Peterborough or Ely had few. Overall, the highest numbers of dispossessions as a percentage of total holdings per county (the two top quintiles) are quite clearly to be found among the south-eastern counties, south of a line from Dorset to Suffolk, and in the south Midlands (but excluding Berkshire, Oxfordshire and Northants). The fewest are in the north, north-west and west of England and in Wales, and

<sup>26</sup> TNA, MAF 38/575.

<sup>27</sup> L. D. Stamp, *The land of Britain: its use and misuse* (Third edn, 1962), pp. 412–13; idem, 'Wartime changes';

R. H. Best and J. T. Coppock, *The changing use of land in Britain* (1962), pp. 78–80; Short et al., *National Farm Survey*, pp. 206–18.

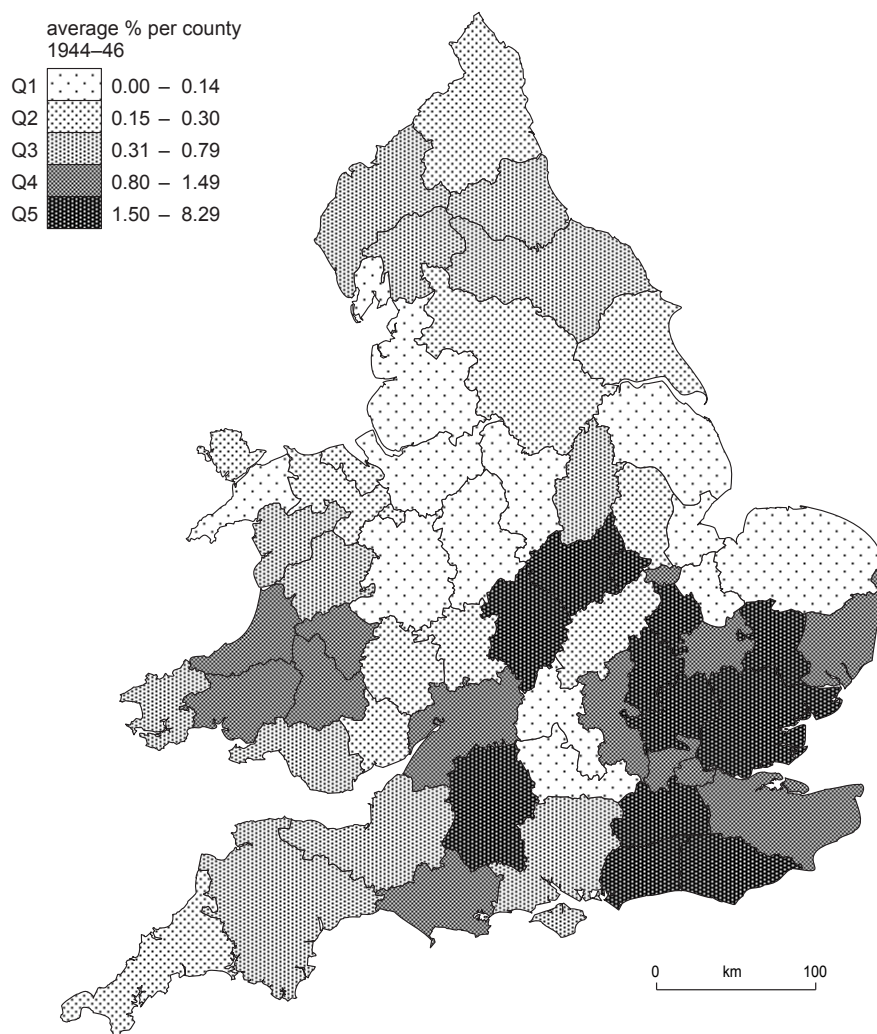


FIGURE 12.3 Holdings (a) *above* under CWAEC control per county 1944–6 and (b) *opposite* farmed neither full-time nor part-time. The latter includes occupation land held in connection with non-farming businesses, and which did not provide a ‘farmer’ with a full-time or part-time living. It also includes the ‘hobby farmer’ and occasional spare-time occupiers, who might be professional or business people.

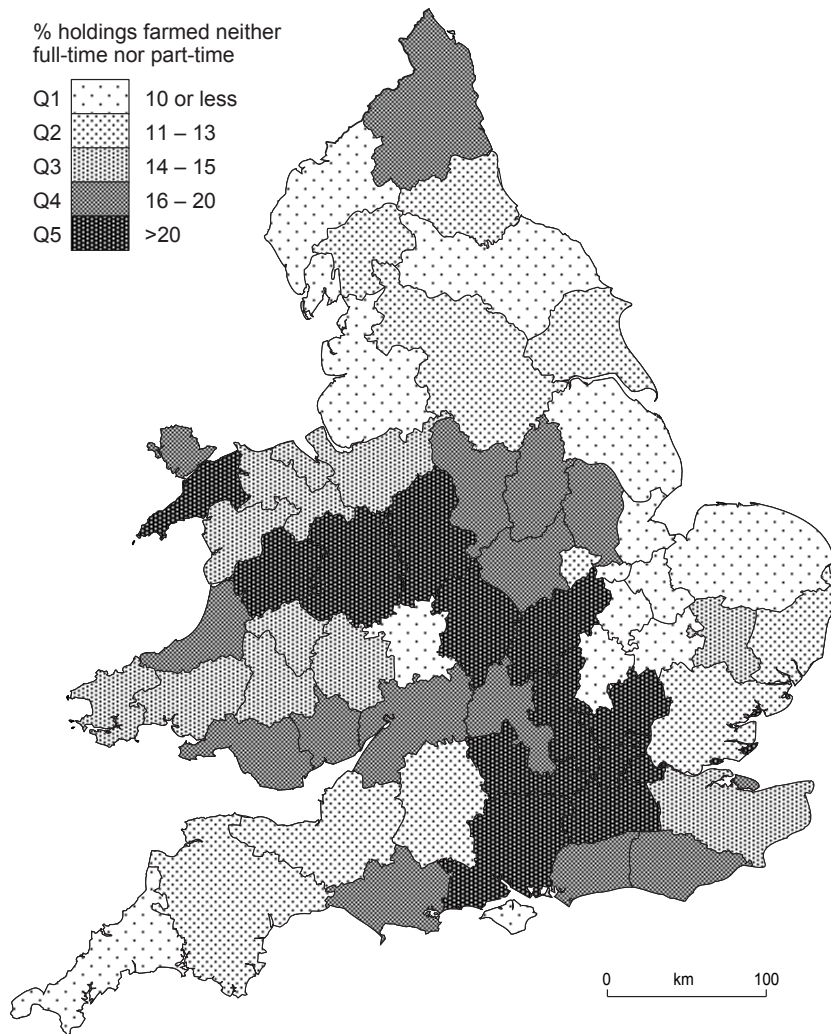
Source: 12.3(a) TNA: PRO MAF 38/575; 12.3(b), MAF, *National Farm Survey, a summary*, pp. 6–14, and 91.

along the east coast from Norfolk to the Scottish border (Figure 12.3a). The pattern is clear, and with minor variations, it is the same for 1944, 1945 and 1946.<sup>28</sup>

How is such a pattern to be explained? It is unlikely to be random, and yet at first sight, it seems counter-intuitive. The south-east experienced the most disposessions and yet lowland

<sup>28</sup> For the county acreage statistics, see MAF, *National Farm Survey of England and Wales: a summary report* (1946), App. 4, p. 91.





England was the primary area for arable farming, having more favoured soils, relief and climate; it had the largest farm businesses, and it was better suited to mechanization. Neither does the pattern correlate well with the spatial pattern of the plough-up campaign. It was Wales and the Midland counties that cashed in the stored fertility of their heavier clays to produce relatively larger acreages of cereals, or where large-scale reclamation schemes (e.g. the Dolfor scheme in Montgomeryshire) under the aegis of local CWAECs caught the imagination. It is a pity that the National Farm Survey Summary Report (1946) did not pursue the 'Condition indices' since this should have been a good guide, including permanent features of the holding, the landowners' responsibilities, the day-to-day management features, as well as the provision of utilities. However, an analysis of these was deemed to be too onerous for the Ministry and was only undertaken experimentally for three un-named counties, with no real outcome. Unfortunately, the Summary Report also failed to give the county distributions of numbers of A, B and C farmers which might also have been significant. It was decided not to include anything in detail on the

results of the gradings, but such information, by county, is available, though never published. The material was assembled in 1948–49, and after the publication of the Summary Report.<sup>29</sup> Table 12.5 gives a flavour of the information available on the distribution of C farmers for five counties, but the county as a spatial unit contains so much variation that it would be quite possible for different district committees to arrive at very different gradings with scant reference to any national norm. Thus, the national supervisory committee of the National Farm Survey, meeting in March 1942, heard of one entire Devon district with a 98 per cent A grading! At the same meeting a committee member asked whether CWAECs might supply the committee with lists of dispossessed farmers, and clearly there was no central co-ordination of such information by this date.<sup>30</sup>

One set of explanations should focus around the extent to which the lowland counties were unable to meet their production quotas. Significantly, during the first year of war the nine counties failing to meet their quotas included the south-eastern Berkshire, Buckinghamshire, Essex, Hertfordshire and Middlesex; as well as Lindsey, Nottinghamshire and the East and West Ridings of Yorkshire. The higher numbers of ‘hobby farmers’ or spare-time farmers in counties such as Surrey may also be significant, since these smaller holdings may have been farmed at sub-optimal productivity or surrendered to the CWAECs. Hudson’s parliamentary response noted that it was accommodation land and land occupied by such non-farmers that was most likely to be taken over by the committees, and again this would point to a regional clustering in the south-east. However there is no overall spatial correlation between numbers of dispossessions and the numbers of holdings not farmed for business, since although counties with more part-time holdings were located in the south-east (Figure 12.3b), there were also significantly higher numbers in the Midlands and in central Wales. The National Farm Survey personnel were instructed that part-time farmers should not be graded higher than B on the grounds that their energies were not being fully devoted to food production, and although many such farmers were certainly graded A, there was a clear presumption against them.<sup>31</sup> It is important to separate such reactions to part-time farmers from the greater sympathy given to full-time smaller farmers. In 1944 Hudson therefore acknowledged that:

these tens of thousands of small farmers are working as hard as anyone in this country! Many are making little more, if as much as the farm labourer, many of them are primarily dairy farmers or farmers whose mainstay of pigs and poultry has gone, farmers who we are compelling in the national interest to grow crops for which their farms are economically ill-suited.<sup>32</sup>

On the full-time farms, many had managed to retain their better lands in cereals throughout the inter-war depression, and any extension of that acreage would involve pushing onto more marginal land. This might be unpopular with older farmers who had been scarred by their

<sup>29</sup> Ibid., pp. 69–70. Information for each county is given in TNA, MAF 38/860 *passim* in some detail, but there is no national county summary set of statistics available.

<sup>30</sup> Short *et al*, *The National Farm Survey*, p. 59.

<sup>31</sup> J.F. Martin, ‘The impact of government intervention on agricultural productivity in England and Wales,

1939–45’ (Unpublished Ph.D thesis, University of Reading 1992), p. 87; TNA, MAF 38/861 shows more non-full time farmers graded C and far fewer A for East Sussex, for example, although over 20% of the county’s part-time farmers were graded A.

<sup>32</sup> *Farmer and Stockbreeder*, 12 Mar. 1944, p. 456.

TABLE 12.5. Numbers of 'C' farmers and reasons for B or C gradings.

	Beds		Notts		Radnor		Sussex (E)		Sussex (W)	
No. of 'C' farmers	26		314		94		343		238	
'C' farmers as % total farmers	1.0		7.9		5.4		9.0		11.2	
Area farmed by 'C' farmers (acres)	3400		27,700		7000		15,000		13,900	
% total area farmed by 'C' farmers	1.4		7.0		5.0		5.0		6.3	
<i>Reasons for grading</i>										
	no. of farms (%)	acreage (%)	no. of farms (%)	acreage (%)	no. of farms (%)	acreage (%)	no. of farms (%)	acreage (%)	no. of farms (%)	acreage (%)
Old age	16 (3.6)	2100 (4.6)	205 (9.0)	14,000 (7.4)	130 (9.5)	8900 (8.1)	478 (17.0)	23,400 (12.1)	62 (7.7)	5900 (7.4)
Ill health & infirmity (other than old age)	20 (4.5)	1100 (2.4)	38 (1.7)	2200 (1.2)	46 (3.4)	4100 (3.8)	68 (2.4)	4600 (2.4)	14 (1.7)	1200 (1.5)
Lack of ambition or interest	64 (14.3)	7500 (16.4)	437 (19.3)	34,400 (18.1)	760 (55.8)	65,100 (59.6)	444 (15.9)	28,400 (14.7)	146 (18.0)	14,400 (18.3)
Lack of technical knowledge	54 (12.1)	5000 (10.9)	305 (13.4)	27,600 (14.5)	102 (7.5)	7100 (6.5)	414 (14.8)	31,200 (16.2)	102 (12.6)	12,900 (16.3)
Lack of experience	22 (4.9)	2700 (5.9)	68 (3.0)	6200 (3.3)	0	0	102 (3.6)	6900 (3.6)	148 (18.3)	12,800 (16.2)
Divided interests	38 (8.5)	2200 (4.8)	222 (9.8)	10,900 (5.7)	20 (1.5)	200 (0.2)	173 (6.2)	9800 (5.1)	12 (1.5)	3100 (3.9)
Innate conservatism	6 (1.3)	1500 (3.3)	28 (1.2)	2500 (1.3)	4 (0.3)	600 (0.5)	30 (1.1)	2400 (1.2)	2 (0.2)	900 (1.1)
Lack of business ability	8 (1.8)	2300 (5.0)	210 (9.3)	26,700 (14.1)	4 (0.3)	600 (0.5)	0	0	24 (3.0)	900 (1.2)
Lack of tenant's capital	86 (19.2)	4900 (10.7)	223 (9.8)	19,200 (10.1)	220 (16.2)	17,000 (15.6)	374 (13.4)	21,400 (11.1)	76 (9.4)	8400 (10.6)
Acute shortage of labour and/or landlord's capital	36 (8.1)	8300 (18.1)	20 (0.9)	8100 (4.3)	2 (0.1)	700 (0.6)	76 (2.7)	4300 (2.2)	24 (3.0)	3400 (4.3)
Reason obscure owing to change of tenure	10 (2.2)	2200 (4.8)	62 (2.7)	8100 (4.3)	10 (0.7)	500 (0.5)	180 (6.4)	17,900 (9.3)	46 (5.7)	2900 (3.7)
Any other reason, or lack of information	87 (19.5)	6000 (13.1)	452 (19.9)	36,900 (19.4)	64 (4.7)	4500 (4.1)	462 (16.5)	42,600 (22.1)	153 (18.9)	12,100 (15.5)

*Note:* The highest figures for each county, other than the residual category, are in bold type.

*Source:* TNA, MAF 38/854 (Beds.); 859 (Notts.); 853 (Radnor); 861 (E. Sussex), 862 (W. Sussex). In all cases the information is taken from Table 26 of the relevant report.

efforts to grow unremunerative crops on such land. In the relatively difficult farming environment of the High Weald of Kent and Sussex, for example, where plough-up quotas were set at 10 per cent of the permanent pasture area, the quotas were not met, although the arable: permanent grassland ratio rose from 1:5 in 1939 to 1:1.1 in 1944.<sup>33</sup> Even if the farmers possessed the skills, many were unenthusiastic, and it was just such farmers who attracted the attention of the CWAECs for their 'lack of ambition or interest' (Table 12.5). It must also be noted that such south-eastern counties were more under the eye of the Whitehall officials. Although Hudson and his liaison officers toured the country widely and frequently, it is possible that there was some distance-decay effect in exhortation and consequent punitive action as one travelled further away from London. A sociological perspective might also concentrate upon the extent to which the CWAECs in the more sparsely populated northern and western counties were composed of near-relatives or associates of the less productive farmers. If, as some critics of the CWAECs have maintained, old scores were being settled at this opportune time, kinship and informal contact networks might preclude punitive dispossession.

Clearly the analysis of dispossession at the regional scale has to take many interacting factors into account: the difficulties of attaining the plough-up targets without intervention; the number of smaller holdings and those not farmed for business which had to become productive quickly; the enthusiasm and personalities of the county committees; combined with a distance effect from London.

#### IV

At the local scale, issues of Whitehall policy are translated into flesh and bone, into meaningful social relations and human feelings. Here, the local scale is taken as that of the individual farm. The study of sub-county variation in dispossession has yet to be undertaken, and it is almost certainly the case that district committees acted with varying degrees of severity towards their least productive farmers. These internal differences in rates of dispossession would no doubt be mitigated by the necessary involvement of the executive committee, Land Commissioner and indeed the Minister himself before any individual was ejected from their farm. Such checks and balances acted as a brake on the more enthusiastic district committees, although some executive committees were also liable to excess enthusiasm at times. In Wales, for example, the counties of Cardigan and Carmarthen made significantly more requisitions of farms than elsewhere in the Principality.<sup>34</sup> Since the Executive Committees were considered as the occupiers of dispossessed farms for the 4 June census, they could take drastic action against their own sub-tenants on such farms. When tenants in Hampshire and Devon were reluctant to make statistical returns to the Executive Committees, the latter withheld livestock rations in June 1944 until the returns were made. In fact, MAF central officials were doubtful whether this was permissible and replied to the particularly draconian Hampshire committee in August 1944 that since there

<sup>33</sup> B.M.Short, 'Agriculture in the High Weald of Kent and Sussex, 1850-1953: a case study in the application of multivariate techniques in the field of historical geography' (unpublished Ph.D thesis, University of London,

1973), p. 378.

<sup>34</sup> R.J.Moore-Colyer, 'The County War Agricultural Executive Committees: the Welsh experience, 1939-1945', *Welsh History Rev.* 22 (2005), pp. 558-87.

were already penalties in place for failure to comply and these didn't include the withholding of rations for livestock, the practice was unnecessary.<sup>35</sup>

Many individual farm case studies are available with different degrees of detail, and two can be examined to demonstrate the contingent effects of locality and agency within the dispossession process. The first case, involving Wood End and Blacklands Farms, Cumnor, Berkshire may be taken as an example of the process at work. The file, preserved in The National Archives, is a large one, since here the process was particularly drawn-out and complex. The typical dispossession case might take about six months to reach a conclusion, but here, from the first inspection of the farm by committee members from Abingdon district committee on 18 June 1941 through to the final file entry on 1 May 1943 there were no fewer than 65 different 'events' (inspections, discussion at a meeting, letters sent or received) in connection with the process of dispossession.<sup>36</sup> This was an especially difficult case for the local committee since it involved dealing not only with the tenant, who held three separate farms, and the original owner, but also with Oxford University, who purchased the estate in 1942 for development purposes, near the modern western Oxford by-pass road. Between 18 June 1941 and 10 October 1942 there were several different inspections (by members of the executive committee on more than one occasion, the Technical Officer, and finally the Land Commissioner), together with cultivation of lands orders and letters to both tenant and landlord. In the end, the tenant was dispossessed of two farms and allowed to stay on the third. When one reads this mass of work engendered by one farmer, it is difficult not to agree with Murray in his acclaim for the committees:

It is impossible adequately to describe the devotion behind the long hours spent in visiting farms, field by field, by day and by night, in all seasons of the year; the infinite patience required in cajoling reluctant farmers to change their systems, and, often, in surmounting the suspicions and criticisms with which some farmers greeted the advice of their neighbours; the determination needed to overcome the tedium of committee work and the weariness of form-filling and report-writing added to the continuous labour of running their own business.<sup>37</sup>

The best-known individual dispossession case is perhaps that of George Walden. Living at Borough Farm, Itchen Stoke, near Alresford, for over 40 years, he came within the purview of the highly pro-active Hampshire WAEC.<sup>38</sup> The chain of events here is detailed in Table 12.6, from the initial mention of his farming as a problem in the minutes of the Hampshire WAEC on 9 April 1940, to his death when resisting eviction by police in July, and the grim recording in the CWAEC minutes of the incident and the equally grim determination to press on with another tenant. His death aroused great sympathy, not only in the neighbourhood, but also nationally, and was an undoubted spur to the establishment of the Farmers' Rights Association (FRA) later that year at Church Stretton, Shropshire by L. V. Priestley.

The well-known agricultural journalist and broadcaster, A. G. Street, loosely based his novel

<sup>35</sup> TNA, MAF 38/575.

<sup>36</sup> TNA, MAF 169/79.

<sup>37</sup> Murray, *Agriculture*, p. 339.

<sup>38</sup> Hampshire RO, Valuation Book 1910–15 for Ovington, 152M82/6/3. The Field Books for the valuation, which would normally be in The National Archives and

which would have offered more detail on the farm, are missing, as are all those for the Winchester area, through bomb damage in the Second World War. Unfortunately the National Farm Survey records are also unhelpful on this matter, with Borough Farm amalgamated with a neighbouring holding in 1941.

TABLE 12.6. The case of George Raymond Walden, April–September 1940

<i>Date</i>	<i>Minute etc</i>
9 April	Walden to be invited to write or attend next Hampshire CWAEC to state his objections to the compulsory order to plough 34.3 acres. Their reference for this case was 6/312/8225 [first mention]
16 April	Order to be issued and served
7 May	a) Executive Officer to contact Walden's landlord's agents to ask whether they could obtain a more suitable tenant if existing tenancy terminated on grounds of bad husbandry and non-compliance with directions b) Application to take possession of Borough Farm, 62 acres
21 May	Corn ricks remain unthreshed; Ministry to be asked to sanction requisitioning of ricks if consent given to the taking of possession
5 June	Arising from the County Land Officer's report, resolved that if Walden fails to comply with termination order, formal possession be taken and the chief constable be requested to arrange for the eviction of the tenant
2 July	Special meeting of Hampshire CWAEC addressed by R. S. Hudson on the future policy of the government (A. Hurd also present)
9 July	Arising from the County Land Officer's report, resolved that notice be served on Walden informing him that unless he vacates the farm within 7 days he will be evicted
22–23 July	Siege and death of Walden, aged 65 (Coroner at Winchester 25 and 30 July: gunshot wound inflicted by a police officer in self defence and in legal execution of his duty: 'justifiable homicide')
23 July	No mention of Walden at committee meeting
30 July	Arising from the County Land Officer's report, committee considered certain statements which had been made in regard to the tragic circumstances of this case, and the advisability of holding an enquiry into the manner in which the eviction was carried out. Resolved: that an enquiry into this case was not necessary
6 August	Arising from the County Land Officer's report, resolved: that the landlord's solicitors be informed that there was no objection to their new tenant moving into the farm, but that the committee cannot accept any liability for the damage done to the premises by the police
10 September	Arising from the County Land Officer's report, resolved: that the account of T. E. Bennett of £2 4s. 0d. for looking after this farm be approved and passed for payment [last mention]

Source: TNA, MAF 80/895; 80/896; *Hants Chronicle* and *Hants Observer*, 27 July and 3 Aug. 1940. General Register Office, Death Certificate, George Raymond Walden, 2 Aug. 1940.

*Shameful harvest* (1952) on Walden's case, and dedicated the book to his memory.<sup>39</sup> This was, as Angus Calder remarked, 'where the mailed fist showed through the velvet glove'. Calder, incidentally follows other writers in ascribing the incident to one arising over Walden's refusal to plough just four acres of land, whereas the Hampshire WAEAC minutes state very clearly that Walden was asked to plough 34 acres, to summer fallow and prepare for cropping.<sup>40</sup> When he did not comply the CWAEC sent for police help. Walden prepared for a siege, and fired one barrel of his double-barrelled shotgun, wounding one policeman with 19 pellets in his leg. A

<sup>39</sup> Street, *Shameful harvest*.

<sup>40</sup> A. Calder, *The people's war: Britain, 1939–45* (1969), p. 427; and for the same four-acre figure see F. Mountford,

*Heartbreak Farm. A farmer and his farm in wartime* (1997), pp. 106–7.



stand-off ensued. About midnight on 22 July the police threw tear gas canisters to persuade him to come out of his farmhouse, but without success, since Walden donned his regulation issue gas mask and fired through his own doorway, slightly wounding three more policemen. Several hours more brought no surrender. About 7 am the police eventually forced their way in but Walden still threatened them with his gun, and at this point they shot him in the head. The FRA later declared him to be a 'martyr of civil liberty'.<sup>41</sup>

These two wartime examples can also be amplified by post-war dispossession narratives, of which one example can be offered. At Horam, East Sussex, Lady Garbett, wife of Sir Colin Garbett (1881–1972), former Minister of Agriculture for Bhopal, had purchased the farm of Horam Manor in March 1949, with her daughter Susan. (It was not their only home.) The farm was placed under CAEC supervision from 1950 for poor husbandry on 160 acres, although an order for dispossession (under the 1947 Agriculture Act s.17) in 1953 failed on a technicality. Dispossession action was taken again in late 1955 after farming standards had declined consistently further, with reports of foul land, poor crops, and a declining workforce. The two ladies were evicted by police in May 1956, amid wide press coverage. The newspapers ran stories under the headings of 'My farm has been unjustly taken – Bailiffs seize land of Lady Garbett'; 'What's the use of democracy when this can happen in England?' and 'Wife and daughter turned off farm'. The *Daily Telegraph* quoted daughter Susan as declaring it as 'legalised robbery'. The *Times* more soberly reported 'Lady Garbett ('aged about 70') loses farm: dispossession enforced'.<sup>42</sup> The Minister, Derick Heathcoat-Amory, called for information and issued a press statement on 31 May 1956 giving the Ministry viewpoint, making it clear that Lady Garbett was still the owner of Horam Manor farm, and that she could find a tenant herself, otherwise the CAEC would do so. Almost immediately press sympathies switched. The *Daily Telegraph* noted on 1 June 'Farm eviction defended by Ministry', and the *Sussex Express* on the same day ran the headline 'Evicted – and why not?' The actions of the CAECs were publicly examined again, this time in peace-time conditions, and received support from Lord Chief Justice Goddard at an appeal hearing in January 1957, who remarked on the fairness and patience of the dispossession proceedings.<sup>43</sup> Nevertheless, the powers of dispossession were removed from CAECs in 1958, as support for such actions drained away. The number and variety of such post-war cases has been tabulated elsewhere, and the Dispossessed Farmers' Association continues to seek public awareness and compensation for tenant farmers evicted during the period 1939–58.<sup>44</sup>

<sup>41</sup> Issues relating to dispossession are also dealt with in Self and Storing, *State and the farmer*, pp.127–38. Borough Farm today is not so named, and indeed is anonymous. The notoriety of the building seems not to be known to local people. However, John Curtis, who runs West Lea farm shop was a neighbour of George Ray Walden (he was known locally as Ray rather than George). John was 11 years old at the time and remembers his father trying to intervene but being stopped by police. Walden was a fellow tenant of the Tichborne estate, and John also remembers that he had a sister living with him, but that she was away at the time of the shooting.

<sup>42</sup> TNA, MAF 255/1065; *News Chronicle*, 29 May 1956; and see also the *Daily Express*, *Daily Telegraph* and *The Times* for 29 May 1956 (all collected in TNA, MAF 142/219–22).

<sup>43</sup> Self and Storing, *State and the farmer*, p.125; 'Lady Garbett's case not one of "bureaucratic tyranny"', *The Times*, 31 Jan. 1957; *Time*, 11 June 1956, pp.38–9.

<sup>44</sup> See FRA, *Living casualties* where brief details of 23 cases are listed. The FRA was wound up in 1949, but I am grateful to the founder of the modern Dispossessed Farmers' Association, Jim Adams, for providing information on his organization's activities.

## V

In concluding this study of scale and dispossession, we should note first that rural communities joined with everyone in the wartime struggle for survival. They took in children from the cities; they lost land and buildings to the services; and the supply of home-produced food was sufficient to last the British population through the War without distress. However, the dispossession of farmers proved to be a step too far for many within the farming community. Even within the constraints of wartime, when farmers' reserved occupations caused many to keep their criticisms to themselves in deference to the privations of service personnel and urban air raid victims, there were protests. But the FRA, the Farmers and Smallholders Association, and local protest groups such as the Essex Farmers and Countrymen's Association also grew.<sup>45</sup>

Much of the problem here can be seen as an issue related to scale. At the national and strategic levels, there was a need to plan and to ensure that the administrative machinery existed to enforce the plan. County quotas, based on what the CWAECs thought possible, were gradually introduced for an ever-widening array of crops, from the ploughing-up of grassland in 1940, potatoes in 1941, wheat in 1943 and so on.<sup>46</sup> The quotas were then divided out by district and down to individual farm levels. And the gamut of advice, persuasion and enforcement was to stretch from Whitehall literally to the grass roots, via the CWAECs whose members were to be agriculturalists, people with local knowledge and respected by their peers. Murray, as we have seen, saw this as one of the great triumphs of wartime bureaucracy.<sup>47</sup>

However, one real issue surrounded the change in scale from national to local, and that revolved around the networks formed by the actors at county, district and community levels. These were people with pasts, with memories and histories – with feelings of deference, attachments and hostilities. Their knowledge of people and places, of environmental conditions and social relations, were intrinsic to the decisions being made by the committees. But as the structures of enforcement became local, so they also became locked into pre-existing relations of power within which animosities and allegiances must have been ever-present. The strength of the committees was precisely their local-ness, their ability to connect with communities of farmers, and as Murray wrote, an ability to improvise in a 'common and urgent purpose'. Here was a peculiar Englishness: 'The queer mixture of officials and volunteers, of drastic legal powers and the scanty use of them, of neighbourly help and administrative authority'.<sup>48</sup> But social connections, or social capital, when overlaid with unequal power relations could lead to community as well as individual stress. Therefore, one of the issues taken up in recent years by relatives of dispossessed farmers has been their feeling of inadequacy, of being made to feel unequal to the job, with a consequent loss of respect.

<sup>45</sup> E.H. Whetham, *British farming, 1939–49* (1952), pp. 47–8; Self and Storing, *State and the farmer*, pp. 111–13.

<sup>46</sup> Murray, *Agriculture*, p. 301. Scotland had slightly different quotas imposed.

<sup>47</sup> *Ibid.*, pp. 327, 339.

<sup>48</sup> K.A.H. Murray, typescript of 'Official history of the UK at war 1939–45: food production' (TNA, CAB 102/326), p. 394.

But at the national level, all had to be driven forward almost irrespective of the cost. Responsibility had to be taken and Hudson wrote to the CWAECs:

Let us hear no more of the difficulty or reluctance of farmers reporting on their neighbour's farms. Those who raise this difficulty clearly do not appreciate the seriousness of the position. All farmers today occupy land on trust for the nation to produce from it to the utmost, and certain of them have been placed in authority to see that trust fulfilled. They must exercise their authority just as others must accept it as a national duty. If those concerned make their visits not as dictators imbued with a brief authority, but as friends and helpers to all those who are genuinely prepared to join in a mutual effort towards meeting the country's needs, then they need be resented by no one, except by the bad farmers and those who are not pulling their weight, and such persons would resent interference from whatever source it came.<sup>49</sup>

As a controversial wartime institution, the costs of the CWAECs were questioned in parliament. Edgar Granville (Eye, E. Suffolk) noted in a 1944 question to Hudson that in 1942 the cost had been £11.8 million, of which £2.1 million was administrative expenses, £2.98 million on machinery; £3.14 million on gang labour and £2.38 million on lands of which possession had been taken. Receipts amounted to £4.75 million (of which £3.24 from goods and services to farmers and £1.38 million in respect of lands in possession).<sup>50</sup> He asked, that in view of these large figures, the figures for each county be published in order to assuage public opinion. Hudson refused, referring to the 'infinite variety of circumstances in this country', with each one demonstrating huge variations at the outbreak of war necessitating diverse expenditures which were thought necessary to supply food from 1939 'whatever the expense'. The 'naked figures' would, he believed, cause public controversy and be an ill-reward for that hard work, and also a diversion from the task still in hand. He went on 'The day will come, no doubt, when a full account can be written, and having regard to all the circumstances. I do not think we need have any fear then of the verdict of history'.

This has by no means been that full account, and the 'verdict of history' must acknowledge the partial nature of reconstructions based on our fragmentary glimpses of the past. The debates that we uncover, such as that concerning wartime rural consensus, are 'less about facts than about "frames of description", and frames of description are about values.'<sup>51</sup> Indeed, the issues may frequently be less about facts than about the emphasis historians put upon them, as between Whetham, Murray and Sir Keith Hancock in the writing of the official account of the value of the CWAECs, where the latter, as the series editor, felt that Whetham's account was 'too pessimistic'.<sup>52</sup>

Here the values have been demonstrated to change with scale, from national and strategic goals, overlain with policy formulation and political clout, through to individual farm families, who in the cases of dispossession dealt with here, too often forfeited, correctly or otherwise,

<sup>49</sup> Quoted in Hurd, *Farmer in Whitehall*, p. 36. Hudson backed his committees in exercising their ultimate powers (*FW*, 31 May 1940, p. 18).

<sup>50</sup> *PD Commons*, 400, 19 May 1944, cols. 543–8.

<sup>51</sup> D. Wishart, 'The selectivity of historical representation', *J. Historical Geography* 23 (1997), pp. 111–18.

<sup>52</sup> TNA, CAB 102/327 correspondence of 16 Dec. 1949.

their roles, and place – both social and physical – within their erstwhile communities. Perhaps Murray was correct in writing of the CWAECs that ‘the more notable of their omissions and mistakes will find a permanent, if exaggerated, record in local gossip and local history’.<sup>53</sup> Whitehall politicians thought this a price worth paying, but the national success of the policies co-existed with local bitterness and recrimination, which in some rural areas has still not entirely disappeared.

<sup>53</sup> Murray, typescript of ‘Official history’, TNA, CAB 102/326, p.395.

# The treatment of ‘failing’ farmers in south-west Lancashire during the Second World War

by Charles Rawding

## *Abstract*

This chapter focuses on those farmers in south-west Lancashire placed in categories B and C in the survey of holdings made in the summer of 1940. It seeks to identify the factors which led to this assessment of their productivity. It will provide an insight into the operations of the district committees and demonstrate that in most cases the problems of perceived lower productivity were in fact the consequence of farming on the urban fringes, whether in areas for which residential development was planned or of encroaching industrial activity. In many cases the poor productivity reflected a period of significant under-investment during the second half of the 1930s when there appeared to be little future for many of the farms which were subsequently required to produce as much as possible for the war effort.

The National Farm Survey (NFS) of 1941–3 provides an unprecedented wealth of data on British farming practices of the time as well as shedding light on the range of policies introduced during the Second World War to boost agricultural productivity. The onset of war resulted in the County War Agricultural Executive Committees being given enormous powers under the Defence Regulations in order to increase food production. They could take possession of land, requisition property, enter upon and inspect agricultural land and direct its cultivation. The main day-to-day activities of the CWAECs were to encourage good agricultural practices along with allocating ploughing quotas, distributing ploughing subsidies, tractors and other equipment, liaising with the armed forces, encouraging land drainage and overseeing questions of labour supply. Matless has pointed out that not all farmers would have accepted such an agenda during the 1930s, but that any such reservations were swept aside by the onset of war. Furthermore, the perceived success of these policies formed the basis for post-war state intervention in agricultural production.<sup>1</sup>

<sup>1</sup> Short *et al.*, *National Farm Survey*; D. Matless, *Landscape and Englishness* (1998), ch. 3; J. Murdoch and N. Ward, ‘Government and territoriality: the statistical manufacture of Britain’s “national farm”’, *Political Geography* 16 (1997), pp. 317–8.

## I

As part of an initial survey of farming all agricultural holdings were classified A, B or C by the district committees during the summer of 1940. A farm classified as category A was considered to be operating in excess of 80 per cent of its maximum production, B at 60–80 per cent, and C at less than 60 per cent. Farms which were categorized as A or B were not inspected again. However farms graded as C received additional visits from the district committees. This survey had been largely completed by mid-1940 and county summaries were sent to the Ministry by the end of the year.<sup>2</sup>

At the level of the whole county of Lancashire, 51.1 per cent of farms were graded A, 31.9 per cent graded B and 4.8 per cent graded C (Table 13.1), while the remainder were not classified or in a very few cases classified indeterminately as A/B or B/C. Districts 2 (North) and 3 (the Fylde) show the highest proportions of A graded farms, with the arable districts 6 (Ormskirk) and 7 (south-west Lancashire) coming next. The relatively poor showing of district 5 (north-east Lancashire) can be explained by its altitude and consequent bleakness, while district 8 (Wigan/Bolton) was an area of encroaching industrialization and colliery subsidence (Figure 13.1).<sup>3</sup>

This chapter will investigate this process of farm classification with a detailed study to identify the principal characteristics of 'underperforming' farms. District 7 of the Lancashire WAEC (Figure 13.2) is used as a case study. This area of south-west Lancashire, running in a belt about 10 miles wide on the north bank of the Mersey from Liverpool to the east of Warrington, contained several large industrial towns (Liverpool, St Helens, Widnes and Warrington) alongside some of the best arable land in the western half of England. Dudley Stamp, at the time of the Land Utilization Survey of Great Britain (1931–38) noted that the area contained:

some magnificent soils including the fine land, rich in organic matter, derived from the drainage of the old mosses. With its centre round Ormskirk [in District 6, three miles to the north], this is one of the great potato growing areas of England and the 27,963 acres of crop potatoes (1939) represent 7 per cent of the English total and the proportion of first earlies is almost the same. Brassica crops, lettuces, celery and peas are also noteworthy.<sup>4</sup>

The South-West Lancashire Joint Town Planning Advisory Committee commented in 1930 that the district 'must be regarded as one of the most valuable agricultural tracts in the country'.<sup>5</sup>

In the inter-war period, in common with the rest of the country, arable acreages in District 7 had fallen by 11 per cent between 1918 and 1938, although the area remained predominantly arable with 74 per cent of the total agricultural land under crops. This was in marked contrast with the national average of 40 per cent arable and a county average of 30 per cent arable. The arable farmers in these areas relied on the farmyard manure produced on dairy farms and in the towns to maintain soil fertility. This was particularly the case for the potato growers. The

<sup>2</sup> Short *et al.*, *National Farm Survey*, p. 56; TNA, MAF 38/213; summarized reports in reply to circular letter 416, classification of farms.

<sup>3</sup> TNA, MAF 38/213.

<sup>4</sup> L. D. Stamp, *The land of Britain: its use and misuse*

(1948), p. 141.

<sup>5</sup> South-West Lancashire Joint Town Planning Advisory Committee, *The future development of south-west Lancashire* (1930), p. 25.



TABLE 13.1. Grading of farms, Lancashire, 1940.

<i>District</i>	<i>Grade A</i>		<i>Grade B</i>		<i>Grade C</i>		<i>unclassified</i>	
	<i>n</i>	<i>%</i>	<i>n</i>	<i>%</i>	<i>n</i>	<i>%</i>	<i>n</i>	<i>%</i>
1. Furness	337	46.2	185	25.4	20	2.7	187	25.7
2. North	626	75.4	162	19.5	32	3.9	10	1.2
3. The Fylde	1052	73.6	152	10.6	44	3.1	181	12.7
4. Preston	618	49.4	465	37.2	38	3.0	129	10.4
5. North-east	455	29.9	752	49.4	109	7.2	205	13.5
6. Ormskirk	944	63.3	331	22.3	57	3.8	159	10.6
7. South-west	388	55.8	174	25.1	26	3.7	107	15.4
8. Wigan-Bolton	466	32.2	699	48.3	122	8.4	161	11.1
9. Manchester	334	40.7	338	41.2	45	5.5	103	12.6
Total	5220	51.1	3258	31.9	493	4.8	1242	12.2

Source: TNA, MAF 38/213, summarized reports in reply to circular letter 416, classification of farms, 1940.

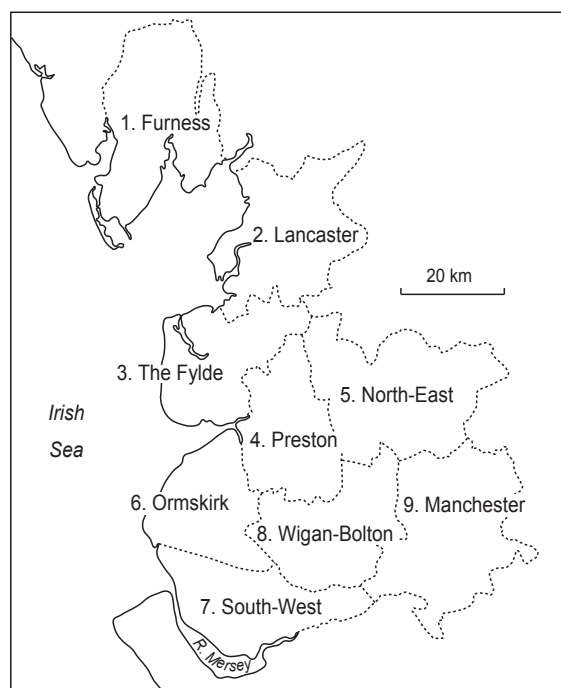


FIGURE 13.1. Lancashire War Agricultural Committee districts.

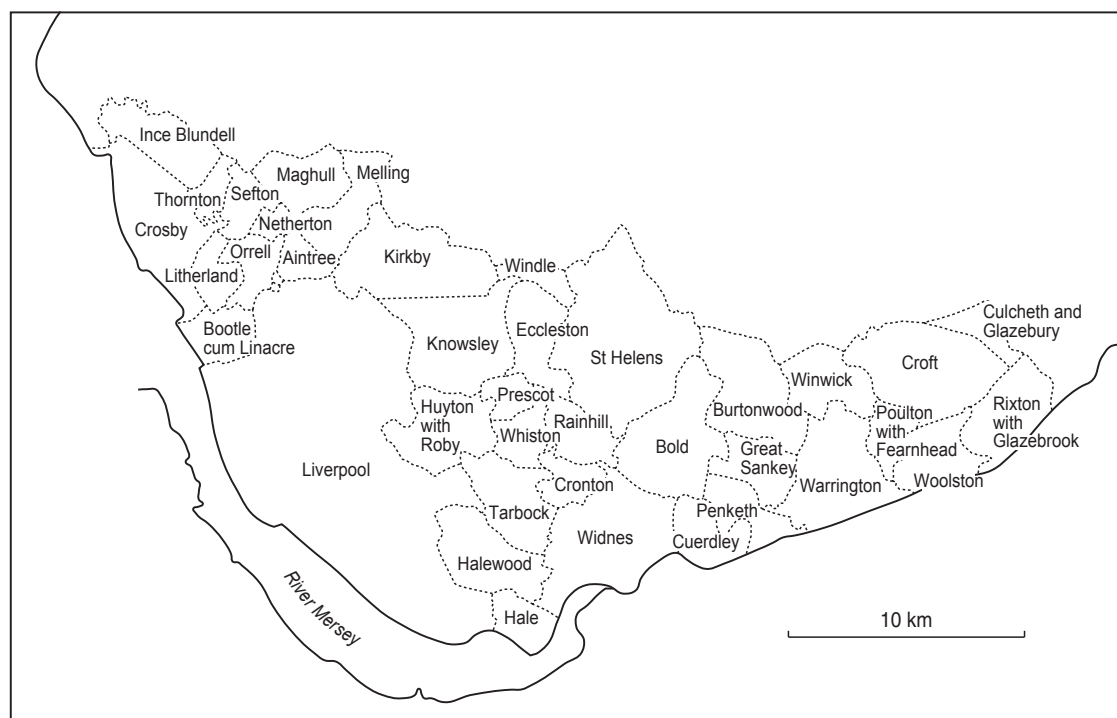


FIGURE 13.2. Lancashire War Agricultural Committee District No.7.

farming was also labour-intensive, with 70 workers per 1000 acres compared to a national average for mixed farms of 25. Norfolk arable farms had in the region of 33 workers per 1000 acres while a Lincolnshire potato farm might employ 62 workers per 1000 acres.<sup>6</sup> There were significant variations in the agricultural land of the district: poorer land was found on the outskirts of the towns, but the rest was considered to be extremely rich. The moss at Rixton was used for intensive market gardening, the coal measures of St Helens and Bold produced heavy but valuable land although here farmers faced problems of subsidence which in turn produced difficulties with drainage. Between these two areas, the light sandy soils of Warrington district were close to a large population providing a ready market for crops and milk.<sup>7</sup>

Prior to the War, mixed farming with a concentration on milk, potatoes and vegetables was prevalent. Dairying was characterized by good herds and excellent levels of production. Short-horn, Ayrshire-Shorthorn crosses and some Friesians were kept. Ploughs were found on every farm, but District 7 was not as heavily mechanized as the Ormskirk area to the north. Farms

<sup>6</sup> St Helens Local History and Archives Centre (hereafter SHLHAC), LEG 86/14; South-West Lancashire Joint Town Planning Advisory Committee, *Future development*, p. 25; SHLHAC, LEG 86/3, 'The maintenance of fertility on Lancashire farms', unpublished report by Lancashire WAEC, 21 Nov. 1941. The deposit held at

SHLHAC comprises papers from the Leigh Estate whose agent, C. H. Clark, was chairman of District Committee 7 and later a member of the County Agricultural Executive Committee.

<sup>7</sup> *Preston Guardian*, 8 July 1944 (copy in SHLHAC, LEG 79/11).

TABLE 13.2. Farm gradings by category of land, 1940.

Farms Graded		Category of land							
		1		2		3		Unclassified	
		<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
A	District 7	291	75.0	89	22.9	6	1.6	2	0.5
	County	3158	60.4	1487	28.5	87	1.7	488	9.4
B	District 7	33	19.0	131	75.3	10	5.7	–	–
	County	352	10.8	2230	68.5	346	10.6	330	10.1
C	District 7	6	23.1	7	26.9	10	38.5	3	11.5
	County	46	9.3	127	25.7	266	54.0	54	11.0

Source: TNA, MAF 38/213, summarized reports in reply to circular letter 416, classification of farms, 1940.

were smaller and the horse was still dominant. Indeed, the area remained a big customer for horses bred to the north of the Ribble.<sup>8</sup>

In the arable rotations, wheat was most important, along with oats which were used as a feed for stock. Plenty of potatoes were grown in the Warrington area, but not as many as in the Ormskirk district. The use of the ley system with a significant time between successive potato crops meant that unlike some nearby areas, there was little evidence of eel worm. The market gardens on the Rixton moss produced good yields of lettuce, celery, onions, cabbage and peas for market. Around Ormskirk, peas were also produced for canning. The farms, for the most part, were highly productive and well managed, with farmers praised in the press and by the government.<sup>9</sup>

At a general level, it is clear that there was a fairly close correlation between the grading a farm received and the quality of the land being farmed (Table 13.2). Land was graded 1 (good), 2 (moderate) or 3 (poor). Three-quarters of all A grade farms were on good quality land, whereas only 1.6 per cent of grade A farms were on poor quality land. By contrast, nearly 40 per cent of those farms graded 'C' were located on poor land. As might be expected, there appears to be a fairly close correlation between the quality of the land farmed and the levels of productivity achieved. The A grade farms also tended to be the largest farms in the district, with an average of 86 acres compared to a district average of 72.

## II

The NFS was commenced in July 1941, a year after these initial surveys, and completed in April 1943. The 'Primary Return' of this new survey now asked for a single classification A, B or C for the farmer, not the holding. If the classification was B or C, the assessor was given the opportunity to tick three option boxes; 'old age', 'lack of capital', and/or 'personal failings' to justify his judgement. In addition, a space was left below for further comment on any personal failings, along with a large section (E) on the reverse of the form for lengthier information. The amount of information entered varied significantly, as did the actual categorizations. Overall, 72.4 per

<sup>8</sup> Ibid.

<sup>9</sup> Ibid.

TABLE 13.3. Number of farmers in each category, 1941.

<i>Parish</i>	<i>A</i>	<i>B</i>	<i>C</i>
Aintree	6	1	–
Bold	30	10	–
Burtonwood	26	7	–
Croft (inc. Culcheth & Glazebury)	503	9	–
Cronton	14	2	–
Great Crosby	17	4	–
Cuerdley	8	2	–
Eccleston	23	4	–
Hale	8	1	–
Halewood	29	8	2
Huyton with Roby	7	7	–
Ince Blundell	13	3	–
Kirkby	34	2	–
Knowsley	24	5	–
Litherland and Ford	–	2	1
Liverpool	36	35	1
Maghull	24	3	1
Melling	24	2	–
Netherton	4	–	–
Orrell	NI	–	–
Penketh	9	6	1
Poulton with Fearnhead	13	5	1
Prescot	1	4	1
Rainhill	10	6	2
Rixton with Glazebrook	35	4	–
Great Sankey	10	7	–
St Helens	34	13	–
Sefton	14	2	–
Tarbock	19	5	–
Thornton	3	1	–
Warrington	3	14	3
Waterloo	2	2	–
Whiston	5	13	–
Widnes	23	17	1
Windle	10	3	0
Winwick	18	5	–
Woolston	22	2	1
Totals	608	217	15
%	72.4	25.8	1.8

*Note:* There are no extant records for Litherland or Orrell.

*Source:* TNA, MAF 32/521–581 (Primary returns, NFS).

TABLE 13.4. District 7. Reasons given for B and C categorizations in 1941.

<i>Reason</i>	<i>No</i>
Personal failings	88
Unclear / non-specific	48
Lack of effort / interest	36
Lack of ideas	32
Too much time on other occupation	23
Combined / compound factors	17
Lack of capital	19
Old age	16
Minor reasons	5
Shortage of labour	2
Total	284

*Note:* The total number of farmers cited is 236 but several justifications are given for some farmers.

*Source:* TNA, MAF 32/521–581. Primary Returns, NFS.

cent of farmers in District 7 were categorized as grade A, 25.8 per cent grade B and 1.8 per cent grade C. However, there was considerable variation between parishes, ranging from 100 per cent grade A at Netherton to as low as 15 per cent at Warrington (Table 13.3).

The reasons given for classifications B and C were varied, although certain common characteristics can be identified along with set phrases which suggest an element of standardization between assessors (Table 13.4). Additional comments entered in the 'personal failings' section of the form tended to focus on 'lack of effort/interest' (36 entries) 'lack of ideas' (32) or 'too much time being spent on other occupations' (23). Interestingly 50 of the category B farmers had no specific personal reasons given for the grading. Indeed, 45 of the farmers might be said to have been given mitigating circumstances for the grading they received from their assessors in the 'additional comments' section.

Several of the reasons given for the grading illustrate the difficulties of applying a purely productivist agenda to judgements on farming. Almost as a throw-back to an earlier age, Home Farm, Ince Blundell, was 'farmed principally for the Hall and not for someone to make a living'. On the urban fringe and in rapidly suburbanizing areas, farmers were experiencing real problems sustaining productivity. In the Liverpool returns, the assessor commented on Lower Finch Farm, West Derby (Grade B), a holding of 135½ acres: 'This farm is so badly trespassed it is impossible to farm it properly', while J. Newsholme's 7½ acre holding in the same area is also graded B with the note: 'This man is in the middle of a built-up area'. In Widnes, the combination of urban fringe and wartime activity proved crucial. 'Fences broken down by building of air raid shelters resulting in children using pasture as a playground preventing him applying fertilizers.' At Crosby (Grade B), the land was 'badly trespassed ... Farmer does his best under difficult circumstances'.<sup>10</sup>

<sup>10</sup> TNA, MAF 32/549/193, Schedule 16; MAF 32/553/280, Schedule 33; MAF 32/553/280, Schedule 42; MAF 32/579/385, Schedule 13; MAF 32/536/192, Schedule 18.

War preparations were themselves a serious impediment to agricultural production. Ten of the B or C grade farmers had problems as a result of the actions of the War Office. At Maiden Bower Farm, Knowsley (Grade B), the farmer 'seems to have lost interest in his farm since crops were trampled and spoilt by surveyors etc'. In several parishes land had been taken over by the Air Ministry. Liverpool's civil airport at Speke had been requisitioned in August 1939, with military airfields opened at Burtonwood in April 1941 and Knowsley Park in late 1941.<sup>11</sup> At Beech House Farm, Warrington (Grade C), urban sprawl and military requirements proved a destructive combination: 'derelict land apparently due to intrusion of defence works making field inaccessible after it had been partly cultivated. Has also lost land to building estate'. At Ford Farm (Grade B) 'Military closed a bridge preventing Mr Carter from getting to 9 acres of grassland. Fields also trenched'.<sup>12</sup>

In addition, farmland might be requisitioned by the military authorities. At New Hutte Farm, Halewood, a tank trap had been constructed at the western end of the farm and about four acres taken and wired off from the tenants. This farm also suffered significant war damage, a problem particularly in those areas close to the industrial targets along the Mersey. A survey of the farm in November 1940 notes one field 'damaged badly by five large bomb craters – not filled in' along with two further fields with bomb craters and one 20-acre field where the farmer 'intended to plough for wheat but prevented by 12 large bomb craters'. This 138-acre farm was tenanted from the London Midland and Scottish Railway by three brothers in their 50s. The district committee recommended termination of the tenancy on the basis that 'the only fields that could be called at all reasonable are a few close to the building. All the outlying fields are badly neglected'. However, a subsequent report by C. H. Clark, agent to the Leigh estate and Captain J. J. Williams, Lord Sefton's estate manager, was more sympathetic. 'They are, like a great many other people, quite unable to cope with the task of filling in the craters and the landlords might be asked to assist by approaching the Military Authorities to carry out this work'. In fact the Railway Company told the committee that filling in the craters was the job of the tenants. The report noted: 'It seems significant that the Railway Company purchased a block of land in this neighbourhood (including New Hutte Farm) just before the War. The purpose of this purchase is, of course, not known, and it may well be difficult to find another tenant who would take the farm if, as is reported, it may be developed in some way by the Railway Company when the War is over'.<sup>13</sup> The report concluded:

We did not form the opinion that the tenants were incompetent and could not discover any conclusive evidence which would lead us to the conviction that a change of tenancy is necessary. The tenants would hardly be considered as up-to-date farmers and from the general appearance of the farm, it may be tending to go back.

This condition could be arrested by the issue of directions by the Executive Committee and we recommend a visit by the District Officer to discuss cultivations in detail, after which orders could be served.

It should be remembered that in recent months the tenants have suffered considerable

<sup>11</sup> TNA, MAF 32/550/380, Schedule 25; K. Delve, 'Air-fields of the North-West', *Flypast* 2 (2001), pp. 61–5.

<sup>12</sup> TNA, MAF 32/577/443, Schedule 33; MAF 32/540/191,

Schedule 1.

<sup>13</sup> SHLHAC, LEG 86/2, 30 Nov. 1940; 86/3, 3 Mar. 1941.



handicaps through enemy action. We are of the opinion that this is a case which, with careful and sympathetic handling would enable the holding to produce to capacity.<sup>14</sup>

This example highlights a range of issues. The judgements are those of government officials concerned with maximizing production in a situation where three aging farmers, who had lived on the farm for 19 years, were attempting to cope with being literally in the enemy line of fire, on a tenancy that had received little by way of investment over the previous few years from their landlord, who had apparently purchased it for its development rather than farming potential. An earlier, and more critical report, had commented that 'the brothers were rather reticent on their financial position, but I understand there is probably a lack of capital',<sup>15</sup> but given their discouraging situation, it is hardly surprising that these tenants were not the most dynamic of farmers.

### III

Beyond these issues external to agriculture, there were clearly conflicts in expectations between a government determined to increase output and farmers steeped in what they considered to be appropriate expertise for their particular farm. Poultry farmers were frequently mentioned as underachievers by the criteria of their NFS assessors. In St Helens, a 5¼ acre holding (Grade B) is marginalized by the phrase 'this is a poultry farm' or, more cutting still, in Sefton, 'these are poultry farmers; Grade B of course'. In Prescott, at least, there was some recognition of the different types of farming where the assessor notes 'this is a poultry farm (Grade B) so laid out for those purposes'.<sup>16</sup>

Given that the original criteria for grading rested on the premise of a percentage of a farm's *potential* productivity, several assessors seem to have had difficulties in awarding Grade A to difficult farms, but instead have referred to the farm's problems as a partial explanation of a B grading. In Maghull, Peel Farm (80 acres, Grade B) had some land which 'floods badly in the winter ... it is better for milk production than ploughing'. At Poulton, 'rough land would not warrant the expense of breaking up'. At Rixton, Moss Side Farm (63 acres, Grade B) is a 'dairy farm, not much use as arable'. In Warrington, Throstle Nest Farm (45½ acres) was graded B, with a disparaging comment about the farmer being a horse dealer, followed by the rather contradictory statement: 'The land is not fit for cultivation being rough grazing, only suitable for turning out horses'.<sup>17</sup>

An analysis of the NFS individual farm records provides an interesting snapshot rather than an overview of process. We have already seen that the 1940 survey identified 26 category C farms in the district (Table 13.1). The National Farm Survey found 15 category C farmers (Table 13.3). These returns essentially provide a single report on the farm. However, an analysis of district committee records over the period from the outbreak of war provides a greater insight into the relative effectiveness of the policy and its effect on the farming community. Table 13.5 shows how

<sup>14</sup> Ibid.

<sup>15</sup> Ibid.

<sup>16</sup> TNA, MAF 32/568/460, Schedule 83; MAF 32/569/201, Schedule 32; MAF 32/563/381, Schedule 6.

<sup>17</sup> TNA, MAF 32/555/370, Schedule 51; MAF 32/562/441, Schedule 5; MAF 32/566/442, Schedule 14; MAF 32/577/443, Schedule 43.

TABLE 13.5. Farms under investigation as at 2 July 1940: subsequent developments.

<i>Farm</i>	<i>Parish</i>	<i>Comment in the National Farm Survey</i>	<i>Change of farmer?</i>	<i>Grade in NFS</i>	<i>Date of NFS survey</i>
Maypole Farm	Knowsley	Most of this farm has been taken by HM Works and Buildings	no	A	12 Nov. 1941
Littlebarn Farm	Knowsley	Improvement since last year, but too much left to son who is young and has not the foresight for this type of farm. Other occupation – haulage contracting/coal carting etc.	no	B	11 Feb. 1942
Randalls Bridge Farm	Knowsley	Previous tenancy terminated owing to unsatisfactory conditions. New tenant added 100 tons of manure.	yes	A	8 Feb. 1942
Moss Side Farm	Knowsley	Slight improvement. Away from the farm two days a week selling potatoes	no	B	11 Feb. 1942
Nine Trees Farm	Knowsley	New tenant, merged with Littlewood Farm.	yes	A	31 Aug. 1941
Sandy Brow Farm	Kirkby	Lack of effort	no	B	15 Mar. 1943
Lathoms Farm	Whiston	Personal failings. Tenancy terminated (MAF 80/1419, 12 Mar. 1941)	yes	B	15 Apr. 1943
Finch Farm	Halewood	Took over about 5 or 6 years ago. The farm was then v. neglected. Too much time given to coal business, but he is willing to improve cultivations etc, under supervision of CWAEC. Lime recommended on whole farm, at the rate of 2 tons p/a (burnt lime). Also other manure for individual crops. Very much improved farm.	no	A	27 Oct. 1942

Source: TNA, MAF 32/550/380 (Knowsley); 32/578/384 (Whiston); 32/545/102 (Halewood); 32/550/194 (Kirkby); SHLHAC, LEG 86/2.

eight of the farms considered to be failing in July 1940 had changed by the time of the NFS.<sup>18</sup> In only three cases had tenancies changed, but in the other cases the farmers were graded as A or B by the NFS. This process of improvement in farm productivity appears as a common theme. A further ten farms were recorded as having been classified as category C in the district committee's minutes of 22 November 1940.<sup>19</sup> Only one of these farmers, at Boundary Farm, Halewood, was classified category C in the NFS. This is not to say that the committees were not prepared to take swift action. As early as April 1940, Ogden Brown of Moss Side Farm, Rixton had his tenancy terminated as a result of an unsatisfactory inspection of his farm. Subsequently, the NFS in July 1941 graded the farm as a B under the new tenant, J.S. Warburton, but commented critically; 'lack of interest and energy. Dairy farm, not much use as arable'.<sup>20</sup>

<sup>18</sup> A further three failing farms are identified in the minutes of the July 1940 meeting but, for reasons that are unknown, were not surveyed by the NFS.

<sup>19</sup> SHLHAC, LEG 86/2, 22 Nov. 1940.

<sup>20</sup> TNA, MAF 32/545/102, Schedule 12; SHLHAC, LEG 86/2, 3 Apr. 1940; TNA, MAF 32/566/442, Schedule 14.

Inspection reports by the district committees provide large amounts of detail on the farms considered unsatisfactory, as at Blakeley Farm, Culcheth, Warrington, where the report, written in November 1943, notes:

This farm is so bad that it is on the way to becoming derelict and it is only the fact that it lies off the main road that action has not been taken against it before now ... The truth seems to be that [the farmer] does not like work and even today he was over the fire and over half his potatoes in the ground ... As both he and his sister are over 60 we asked him if he would agree to the land being turned over to his cousin or any other neighbouring farmer who would let him live in the house but he will not agree to it ... [he] strongly desires that the Committee leave him with no interference.

Termination of the tenancy was recommended.<sup>21</sup>

The committee agreed on the serving of such ultimatums on farmers throughout the hostilities. In February 1943, Mr Blundell of Sherdley Hall Farm was told that the quality of his 1943 crop 'would be the deciding factor as to whether the termination of the tenancy would have to be effected'.<sup>22</sup> Where verdicts were not quite as clear cut, repeated inspections appear to have taken place in an attempt to exert pressure on the farmer. At Windle Farm, Windle, an inspection report as late as July 1945 notes:

This farm has not been well farmed for some time but the attentions of the Committee do not seem to be meeting with any success. The farm is definitely not paying anything like its full share to the country's food production campaign and it is therefore felt that it is unlikely it ever will do under this management. [The farmer] was warned as far back as 1942 about the condition of the farm and [in] 1944 only part of the potato subsidy was paid owing to the state of the crop.<sup>23</sup>

However, at the time of the survey in September 1942, the farm was graded 'B' with the only comment being 'shortage of labour'.<sup>24</sup>

The district committee appears to have been altogether more critical in its judgment than the county executive committee. For instance, two farms in Halewood were judged by the district committee to be so poorly cultivated that the tenancies of each should be terminated. In both cases the decisions were overturned by subsequent inspections by Clark and Williams. The initial report on Finch Farm, Halewood, was extremely critical:

Mr Lawrenson has a coal carting business as well as the farm. He stays at a cottage some distance from the farm and the farm-house is occupied by another small holder. There are two horses working regularly on the farm, and one horse which is used for coal carting also works occasionally on the farm.

The arable land consists of two large fields.

Field no 428, 12.852 acres. Half of this field was in wheat last year, and has recently been sown with wheat again. There is a considerable amount of perennial weed, mainly couch

<sup>21</sup> SHLHAC, LEG 86/5, 25 Nov. 1943.

<sup>22</sup> SHLHAC, LEG 86/5, 1 Feb. 1943.

<sup>23</sup> SHLHAC, LEG 86/7, 4 July 1945.

<sup>24</sup> SHLHAC, LEG 86/2.

grass, on the surface, and the field has obviously been very weedy. The crop from this field, which was in the Dutch Barn, has obviously been a very poor one. The rest of the field is potatoes with a few drills of turnips. The potatoes are a poor crop. They have obviously been very late planted and have received very little attention during the year, and contain large amounts of couch grass.

Field No 423, 21.467 acres, is part oats, part wheat, and part clover root. The whole of the stubble is full of weed, mainly couch grass and the crops have been extremely poor throughout. The clover root is reasonably good but extremely weedy.

There are 2 small pastures attached to the farm, one of 3.312 acres and one of 1.318 acres. Both are extremely poor and sour, and as the only stock consists of 2 horses, more of it should certainly be ploughed.

There are 2 small fields adjacent to the cottage where Mr Lawrenson stays which are also in his occupation. One of about 2 acres has been cropped with oats this year and these have been a fair crop and the field is reasonably clean. The other small field has been cropped with peas and potatoes. The potatoes are a miserable crop and extremely weedy. The pea land also, is extremely weedy.

The whole farm shows every sign of neglect. The potatoes have obviously been very late planted and I understand most of the oats were sown very late in the season. The main difficulty would appear to be that Mr Lawrenson devotes most of his time to the coal business and the farm is consequently neglected.

District 7 Committee recommends that this tenancy be terminated.<sup>25</sup>

However the second report, made after an inspection by Clark and Williams, is more conciliatory, and perhaps as suggested in the penultimate paragraph, the initial visit by the district committee had served its purpose.

The tenant informed us that when he took it over about five or six years ago the place was very run down and he had improved it considerably. He admitted that some of the arable land is dirty but he was taking steps to get it into condition and he stated the potato crop was better this year than at any time since he became tenant.

Questioned about manure he stated that last year he had his own horses and the manure from another stable of a dozen horses as well as 30 tons of cow manure purchased ...

The tenant seemed plausible and will obviously do anything to be allowed to remain on the farm. We came to the conclusion that the County Land Agent ought to be asked for his opinion about him and further enquiries made into the amount of time taken up by the coal business. If he can afford to pay a man and a boy to work on the farm it seems reasonable to suppose that it would provide him with a living if he devotes his whole time to it.

The question to be decided seems to be – is he a farmer or a coal merchant who has taken the holding on the supposition that he can farm it by employing someone who understands the work.

It might be difficult to let the land and buildings without a farm house, but it may be that

<sup>25</sup> SHLHAC, LEG 86/2, 30 Nov. 1940.

the tenant of the adjoining holding, who lives in the adjoining farm house, is competent and willing to take it in with his farm.

Lawrenson seems to have been gingered up to get some of the land ploughed by tractor as a result of the visit of the District Committee and as a result he may, with the aid of Cultivation Orders, properly cultivate the holding in the future.

There does not appear at present to be sufficient evidence to enable us to confirm that the tenancy should be terminated, as we think the tenant can probably be made to farm properly, but before coming to a final decision we should like further enquiries to be made of the County Land Agent and into the coal business.<sup>26</sup>

Clearly Mr Lawrenson was a smallholder and dual occupationalist deriving an adequate living from his activities as a coal merchant as well as a farmer. In his case, close supervision was considered adequate to maximize production from the farm.<sup>27</sup> Indeed, by the time of the NFS, Finch Farm was graded an 'A' with the comment: [Mr Lawrenson] 'took over about 5 or 6 years ago. The farm was then v. neglected. Too much time given to coal business, but he is willing to improve cultivation's etc, under supervision of LWAEC ... Very much improved farm'.

Of the 10 farms classified as C by the district committee in November 1940, all were graded A or B by the time of the NFS, although in several instances the farm was under new tenants as at Rankles Bridge Farm, Knowsley or had been amalgamated with other holdings as at Nine Trees Farm, Knowsley.<sup>28</sup>

The conventional wisdom was that farmers who were categorized as C were either lazy, elderly or lacked capital. However a closer examination of those farms reveals a more complex explanation. Many of the farms that were so categorized by the NFS were faced with a range of circumstances which hindered productivity (Table 13.6). In several cases, land on the urban fringe was involved. This might be land which had already been designated for development, as was the case with large areas on the edge of Liverpool. As early as 1929, Liverpool Corporation had bought 2216 acres of agricultural land in Speke. Planning proposals produced in 1930 suggested an 82 per cent increase in the built-up area, with massive urban and/or industrial development planned for several parishes (Table 13.7). Development of Speke began following an Act of Parliament in 1936. But for the War, far larger areas would have gone under buildings and tarmac during the early 1940s. Only the outbreak of war prevented Liverpool Corporation from completing the purchase of the Kirkby Estate, but nevertheless, a Royal Ordnance Factory was established on 750 acres of former farm land there and the remaining farmers in the parish were fully aware of the future intended for their farms. Indeed the population of the outer districts of Liverpool doubled between 1911 and 1931 and doubled again between 1931 and 1951, with older villages such as West Derby and Woolton being engulfed. In the inter-war years Liverpool City Council built altogether 38,146 dwellings.

The planned growth of overspill estates is best illustrated by Huyton with Roby which, in 1931, had a population of 5200. By 1951, its population stood at 55,800, following its 'invasion ... by Liverpool Corporation housing estates'.<sup>29</sup> In such circumstances, it is hardly surprising that

<sup>26</sup> Ibid.

<sup>27</sup> Ibid.

<sup>28</sup> TNA, MAF 32/545/102, Schedule 39; SHLHAC, LEG

86/2.

<sup>29</sup> W. Smith, *The distribution of population and the location of industry on Merseyside* (1942), p. 17.

TABLE 13.6. Location of category C farms.

<i>Parish</i>	<i>Schedule no</i>	<i>Farm name</i>	<i>Observations suggested by MAF 73 county maps</i>
Ford	4	Twist Farm	Split site, urban fringe including building developments and waste
Halewood	12	Boundary Farm	Land scheduled for building
Halewood	36	Hale Bank Farm	Next to new housing development
Liverpool	74	Hall Farm, Woolton	One year tender off Liverpool Corporation, urban fringe park-land
Maghull	25	Manor House Farm	Farms amalgamated, much of land liable to flooding
Penketh	6	Woodcroft Farm	Split farm on two sites
Prescot	2	Hall Farm	Industrial area adjacent to major factory – landowners – British Insulated Cable
Poulton	14	Long Barn Farm	By Cheshire Lines Railway
Rainhill	2	Wood House Farm	Open countryside close to Sutton Manor Colliery
Rainhill	20	Lawton House	Surrounded by housing development
Warrington	25	Land at Latchford	Wasteland – owners Manchester Ship Canal
Warrington	33	Beech House Farm	Small farm on edge of new housing development
Warrington	40	55 Long Lane	Next to tannery surrounded by new housing developments
Widnes	40	Oakfield	Nursery near new ribbon housing development
Woolston	27	244 Manchester Rd	Open farmland by the River Mersey, no farmhouse.

Sources: TNA, MAF 32, Primary returns; MAF 73, county maps.

tenants were not prepared to invest heavily during the second half of the 1930s. This effect had been predicted by the South-West Lancashire Joint Planning Advisory Committee in 1930.

[T]his area, more than most other agricultural areas in this country, is one which, on account of its great value, should be kept open and unencumbered by straggling residential developments – for these developments not only take valuable land out of use, but bring a demoralising influence against the working of the land that is left.<sup>30</sup>

Equally, some landowners, such as the railway companies, saw their land banks as development opportunities for the new industries which were looking to develop beyond the original industrial core of the cities. Given the overall context, the productivity of farmers in the district can be considered nothing short of remarkable, with nearly 75 per cent of farms classified as grade A.

<sup>30</sup> South-West Lancashire Joint Town Planning Advisory Committee, *Future development*, pp.43, 68; A.Patmore and A.G.Hodgkiss, *Merseyside in maps* (1970), pp.25, 43; University of Liverpool, *New handbook of social statistics relating to Merseyside* (1948); Lancashire Industrial Development Association, *Industrial report*, 3, *Merseyside* (1949), pp.35–6; City of Liverpool, *Housing and planning* (1952), p.34.



TABLE 13.7. Development proposals for south-west Lancashire, 1930.

<i>Town/parish</i>	<i>Area at present developed (1930)</i>	<i>Area proposed for development</i>
Liverpool	18,000	5550
Bootle	920	300
Crosby	785	850
Litherland	200	250
Speke	0	600
Hale	0	300
Halewood	0	600
Huyton with Roby	300	700
Knowsley	0	725
Kirkby	0	750
Maghull	140	1100
St Helens / Prescott	1330	3800
Rainhill	100	500
Widnes	450	2150
Total	22,225	18,175

Source: South-West Lancashire Joint Town Planning Advisory Committee, *The future development of south-west Lancashire* (1930), p. 68.

## IV

This study has focused on one district within Lancashire at a time when Lancashire as a whole had a relatively lowly position in national league tables for grade C classification of farm productivity. Nevertheless, in terms of recent concerns about the rights of farmers during the Second World War, it appears difficult to conclude that farmers were being unduly persecuted or evicted from their farms on a whim.<sup>31</sup> Overall, only 15 farms out of 785 (1.9 per cent) in District 7 were graded C by the NFS and only a small number of farmers had their tenancies terminated. There were clearly differences in interpretation between the assessing authorities, with the district committees being more critical than the executive committees, yet overall the impression is given of a group of very hard working officials attempting to boost agricultural productivity as quickly as possible but in a largely sympathetic manner.

<sup>31</sup> 'Farmers demand compensation for post-war eviction,' *The Independent*, 21 Feb. 2001, p. 12.

# Defending farmland: Dudley Stamp, the Ministry of Agriculture and Fisheries, and rural land utilization planning, 1939–47<sup>\*</sup>

by Will Pilfold

## *Abstract*

The Second World War provided the catalyst for major changes in the way planning of the physical infrastructure and land use was conducted. To protect agricultural interests, the Ministry of Agriculture and Fisheries became involved in the development of planning policy through its representation in a small but influential Whitehall ‘policy community’. Dudley Stamp, an academic geographer with expertise in United Kingdom land use, was vice-chairman of the influential inter-departmental Committee on Land Utilization in Rural Areas. He subsequently became MAF’s Chief Rural Land Utilization Officer, heading a regionally-based team working to ensure that agricultural interests were reflected in the reconstruction and development plans being drawn up around the country. This chapter explores the evolution of MAF’s policies in respect of planning issues, and the roles and influence of Stamp and other members of the policy community on the development and implementation of planning policy during and immediately after the War.

The Second World War acted as a catalyst for major structural changes in many areas of Britain’s social and physical fabric. Following the end of the War, many major pieces of legislation passed onto the statute book in a concerted and deliberate attempt to modernize the nation’s physical infrastructure and its social facilities. Alongside the post-war establishment of the National Health Service and the overhaul of education, both the planning system and agriculture were the subject of post-war statutes. All the legislation came about as the result of intense activity during the War when, despite the pressures brought to bear on politicians and civil servants by wartime crises, the need to provide an early response to expected post-war social problems was acknowledged and addressed.

It is certainly true that there had been pressure for change during the 1930s, but progress towards addressing problems had been limited by financial and ideological constraints. The War provided the opportunity for more radical solutions in many fields to be advanced, debated and progressed by interested parties in a way that simply had not been possible previously. The

<sup>\*</sup> The research for this paper has been carried out as part of a project to write a biography of Sir L. Dudley Stamp. I would like to acknowledge the financial assistance from the Frederick Soddy Trust that has made this project possible.

planning and control of the built infrastructure, with all its implications for resource management and its social repercussions, was one policy area that rapidly moved up the governmental agenda. A backlog of problems centred around decaying urban areas and structural shifts in the economic activity of the country was exacerbated by the damage inflicted by enemy bombing on the housing stock and industrial infrastructure. Additionally, the enforced suspension of the normal economic considerations governing the location and operation of industry, caused by the rapid move to a war-based economy, meant that there was much work to do in this area.

## I

Agriculture underwent a rapid transformation to meet the urgent requirement for an increase in home-produced food necessitated by the enforced reduction in imported foodstuffs; as a result the status accorded to agriculture by the government and the general public rapidly increased. It was a concern within the farming community and its allies that the gains the industry had made through its contribution to the war effort should be retained after the War and that a repeat of the 'Great Betrayal' (which had followed the First World War) must be avoided. The potential conflict between the need to maintain the position of agriculture and the requirement for land to build new housing, industrial sites and airports, together with the expansion of extractive industries associated with this work, led to close co-operation between the relatively small groups of civil servants and others working on central government's response to these problems. It is the detail of the interactions between the members of this group, and the results of their collaboration, particularly with respect to the impact on farming and farmland, with which this chapter is concerned. This group came together during the genesis of the Scott Committee, but as a result of the Ministry of Agriculture and Fisheries' involvement with the Committee, the Ministry established the Central Planning Branch (CPB), which had, as a central focus to its policies and activities, the principles expounded in the Scott Report. The figurehead of the CPB's early activities was the geographer L. Dudley Stamp. The role he played is the particular focus of this chapter.

Governmental concern with the condition of both the urban and rural fabric of Britain led to the establishment of a series of enquiries, each of which produced a substantial report. The Royal Commission on the distribution of the industrial population (the Barlow Commission) was set up in 1937 and reported in January 1940; the Expert Committee on compensation and betterment (the Uthwatt Committee) was established in February 1941 and reported in September 1942; and the Committee on land utilization in rural areas (under Lord Justice Scott) was convened in October 1941 and reported in August 1942.<sup>1</sup> During the inter-war period the spread of urban areas and the expansion of extractive industries, airfields and industrial sites led to large amounts of farmland being converted to other uses. L. Dudley Stamp, Reader in Economic Geography at the London School of Economics, had conducted the first detailed survey of

<sup>1</sup> Royal Commission on the distribution of the industrial population, *Report* (1940) [The Barlow Report] Cmd. 6153; Ministry of Works and Planning, *Expert committee on compensation and betterment: final report* (1942) (The Uthwatt Report) Cmd. 6386 and see also its *Interim Report* (1941) Cmd. 6291; Minister of Works and Planning, *Report of the committee on land utilisation in rural areas* (1942) (The Scott Report) Cmd. 6378 (reprinted 1962).

British land use during the 1930s, the Land Utilization Survey (LUS). This survey was conducted by a large number of volunteers, including an estimated 250,000 school children.<sup>2</sup> Drawing on the fruits of their labour, Stamp wrote and spoke widely on the changes in land use, both historic and prospective. He offered calculations for the loss of agricultural land showing that in the twelve years 1927–39 nearly 800,000 acres of land had been lost, of which 572,000 acres had been used for building and general construction. His calculations of the possible land use changes required to bring about the modernization of the housing and industrial stock of Britain were even more dramatic. Comparing his LUS figures with projections of future demand, he forecast a near doubling of the area used for houses (including gardens) from 1,719,900 acres to 3,380,000 acres and that some further 250,000 acres of farm land would be needed for airfields and military training grounds.<sup>3</sup>

Stamp came to play a central role in the development of MAF's response to the changing climate of land use planning in the Second World War, including serving as vice-chairman of the Scott Committee. He was one of a small cabal of men who formed a 'policy community' within Whitehall that established the agenda for the development of post-war planning policy and pushed it forward with some vigour, despite the other great demands on the government machinery at this time.<sup>4</sup> By examining in detail the activities of this policy community, and in particular Stamp, it is possible to trace the development of the policies which were to become firmly embedded within the legislative framework of the 1947 Town and Country Planning Act and the 1947 Agriculture Act and therefore played a major part in the evolution of the post-war British landscape.

## II

Stamp wrote in his unpublished autobiography how 'as late as 1939 the Ministry of Agriculture [and Fisheries] had declared it was not interested in planning'.<sup>5</sup> However, by 1941 MAF was, as a matter of policy, actively involved in the planning process, most noticeably through the Scott Committee and through the 1942 CPB, now working specifically to address issues of protecting

<sup>2</sup> For accounts of the LUS, see L.D. Stamp, *The land of Britain: its use and misuse* (third edn, 1962) (first edn, 1948, sec. edn, 1950), pp. 3–19; S. Rycroft and D. Cosgrove, 'Mapping the modern nation: Dudley Stamp and the Land Utilization Survey', *History Workshop J.* 40 (1995), pp. 91–105 and R. Walford (ed.), *Land use UK: a survey for the twenty first century* (1997).

<sup>3</sup> Stamp, *Land of Britain*, pp. 425–38, statistics from pp. 432 and 438. See also as examples, Stamp's 'Nationalism and land utilization in Britain', *Geographical Rev.* 27 (1937), pp. 1–18; id., 'The right use of land', *The Listener* 27 (1942), pp. 205–6 (summary of a broadcast on the BBC Home Service); the summary of his contribution to the *Discussion on planning the land of Britain*, British Association for the Advancement of Science, *Report of Meeting* (1937), pp. 486–89 and 'Britain looks to the land', *Foreign Affairs*, 22 (1944), pp. 267–78.

<sup>4</sup> M.F. Tanner, 'Sir Dudley Stamp, 1898–1966', *Planning History Bull.* 9 (1987), pp. 30–35; J. Sheail, 'Scott revisited: post-war agriculture, planning and the British countryside', *J. Rural Studies* 13 (1997), pp. 387–98; M. Tichelar, 'The Scott Report and the Labour Party: the protection of the countryside during the Second World War', *Rural Hist.* 15 (2004), pp. 167–87.

<sup>5</sup> L.D. Stamp, 'Autobiography', p. 413. When he died in August 1966, Stamp left an unfinished autobiography of about 850 typescript pages. Copies are held at the Special Collections, University of Sussex Library, and the Archives, Royal Geographical Society (with IBG), Kensington Gore, London. I am grateful to Bryan Stamp for permission to quote from this document. See W. Pilfold, 'Sir Laurence Dudley Stamp (1898–1966), geographer and public servant: a critical biography' (unpublished DPhil thesis, University of Sussex, 2005).

agricultural interests in the development of planning schemes.<sup>6</sup> A policy community arose from the mutual interests of its individual members who came together principally at the instigation of civil servants in the two ministries involved.

In MAF, the key personnel were Basil Engholm, a talented young Private Secretary at the outbreak of the War who eventually rose to the position of Permanent Secretary, and his senior, Richard Manktelow, another career civil servant. Graham Vincent, a senior civil servant recently brought in to the Ministry of Works and Buildings, was instrumental in forging links with MAF as a strategic move in the complex inter-departmental wrangling surrounding issues of responsibility for reconstruction and planning. His Minister at the Ministry of Works and Building was John Reith, better known as the first Director General of the BBC, who was determined that his Ministry, which he headed for less than two years, would take a lead role in questions of reconstruction. Of the other members, Leslie Scott was a Lord Justice of Appeal, who had been a founder member of the Council for the Preservation of Rural England, and was an active member of the Town and Country Planning Institute. He was described in *Who's Who* as being 'interested in all questions of social and industrial reform, particularly in connection with the development of agriculture and the improvement of the condition of life affecting the rural population'. It was a lengthy 'memorandum' prepared by Scott and sent unsolicited to Reith in January 1941 that spawned the well-known committee that Scott would chair. This memorandum was also sent to the Minister of Agriculture, Robert Hudson, as Scott believed that the preservation of the countryside could only be achieved with the support of the agriculturalists. The final member was Dudley Stamp, brought in by MAF, with the active support of the Ministry of Works and Planning, as the expert on land utilization. He also had a keen personal interest in the preservation of the rural and in improving the farming estate, founded on the results of his Land Utilization Survey. Stamp was chosen by Scott as his vice-chairman on the Committee and the two of them worked closely in the months that the Committee sat.<sup>7</sup>

Stamp's autobiography reveals how close his working and personal relationships became with Scott and Engholm. Stamp first met Leslie Scott at the end of March 1941 when he gave a presentation at a Town and Country Planning Association conference in Oxford, at which Scott was chairing one of the sessions. Only a few weeks later Stamp was invited by Scott to become vice-chairman of the Scott Committee. The two men formed a close and friendly working relationship, being, to Stamp's surprise, on first name terms from the start of the Scott Committee's work. Two months after the Committee began sitting, Stamp, sometimes accompanied by his wife Elsa, became a regular weekend visitor to Scott's country house at Sotwell, near Wallingford, to work on the planning and drafting of the Report. Stamp's respect for Scott is shown

<sup>6</sup> Stamp, *Land of Britain*, pp. 442–6.

<sup>7</sup> Sheail, 'Scott revisited'. For additional information on Engholm, see *Who's Who* 1970 and B. Engholm, 'The Scott report – a personal perspective', *Planning History Bull.* 7 (1985), pp. 39–43; on Vincent, see J. Sheail, 'Sir Graham Vincent: an appreciation', *ibid.*, 3 (1981), pp. 14–17; on Reith, see I. McIntyre, *The expense of glory: a life of John Reith* (1994), and J. C. W. Reith, *Into the wind* (1949); on Scott, see P. A. Landon, 'Sir Leslie Frederic

Scott', in *DNB, 1941–1950* (1959), pp. 763–4; on Manktelow, see *Who's Who* 1970; and on Stamp see C. Embleton and J. T. Coppock (eds), *Land use and resources: studies in applied geography. A memorial volume to Sir Dudley Stamp* (Institute of British Geographers special publication, 1, 1968); and M. J. Wise, 'Laurence Dudley Stamp, 1898–1966', in T. W. Freeman (ed.), *Geographers Biobibliographical Studies*, 12 (1988), pp. 175–87.

in the dedication of his book in the New Naturalist series, *Britain's structure and scenery*: 'To a true lover of the countryside the Rt. Hon. Lord Justice Scott, P.C. to serve under whom for a year is a liberal education.'<sup>8</sup> Engholm's relationship with Stamp was also significant, and he wrote many years later that 'as a result of meeting on the Committee we became personal friends, a friendship which lasted until Dudley's death'. The two men's friendship was sufficiently close for Engholm's wife and baby daughter to stay with the Stamp family at their home in Bude, Cornwall, as evacuees during a period of heavy bombing in London.<sup>9</sup>

### III

The first major engagement with the developing planning system for MAF was the Scott Committee. Although set up by Reith at the MWB, it was effectively a joint venture with MAF. The committee's remit was 'to consider the conditions which should govern building and other constructional development in country areas consistent with the maintenance of agriculture ... having regard to ... the well being of rural communities and the preservation of rural amenities'. One of the most significant aspects of the Scott Committee was its membership. It was necessary to ensure that there was a balance of interests represented on the Committee, including farming, industry, landowners, farm-workers, women and economists. Besides Scott and Stamp, MAF were able to ensure that nearly all the members were sympathetic to the 'agricultural view' and Engholm commented that in addition to Scott as chairman and himself as joint secretary, at least seven of the 12 members had 'their roots in the country'. This gave MAF a very strong hand in the Committee.<sup>10</sup> Thus, the Scott Committee was a significant benchmark for MAF's involvement with planning. Stamp records in his unpublished autobiography a pivotal moment in MAF's relationship to planning issues and the defence of farmland in the post-war era:

When the work of the Scott Committee was drawing to a close, I received the suggestion that I should join the Ministry [of Works and Planning] in general charge of research into the land problems. This invitation was known to the Secretary and the Committee, and doubtless reported to the Minister of Agriculture by Basil Engholm. That Ministry, doubtless again through Engholm, at once appreciated that in future agricultural interests would be intimately concerned with planning. A.R. Manktelow (later Sir Arthur) formulated plans for a Central Planning Branch (CPB) and I was invited to become Chief Advisor in Rural Land Use.<sup>11</sup>

Examination of the MAF archives shows that Manktelow was giving consideration to how agricultural interests should and could be developed in the emerging planning system well before this invitation to Stamp was made, and also that the development of the CPB and its staffing were not quite as straightforward as Stamp implies.

<sup>8</sup> Stamp, 'Autobiography', pp. 402–12; F.E. Towndrow (ed.), *Replanning Britain: being a summarized report of the Oxford Conference of the Town and Country Planning Association, Spring 1941* (1941), which includes a summary of Stamp's paper at the conference on 'Land fertility classification'; L.D. Stamp, *Britain's structure and*

*scenery* (1946).

<sup>9</sup> Engholm, 'The Scott report', p. 41; Stamp, 'Autobiography', p. 385.

<sup>10</sup> Stamp, *Land of Britain*, pp. 440–1; Sheail, 'Scott revisited'; Engholm, 'The Scott report'.

<sup>11</sup> Stamp, 'Autobiography', p. 414.



Manktelow first raised the issue of MAF needing to take an active role in 'policing' planned housing and other reconstruction work on agricultural land in July 1941, at exactly the same time that plans were being formulated for the Scott committee (which was formally established in October 1941). Over the coming months, several ideas were considered in the search for a way in which MAF could ensure that the plans being prepared did not unduly prejudice the agricultural position. Among the ideas put forward and rejected were that existing public servants, the Land Commissioners, should be given the job of checking proposals or that CWAECs should take on the role. Both of these were rejected on the grounds that neither group had the time to take on this extra work. It was also suggested that use be made of the data gathered in the National Farm Survey, which had been conducted in 1941–43 as part of the drive to increase home food production. This, combined with the LUS maps, would enable MAF to ensure that the 'best' land was left untouched. Another alternative suggested was to stipulate that land with a high rental value (and therefore, by implication, of good farming quality), should be made inviolate. These approaches were rejected because they could not be relied upon to be sufficiently sensitive in complex local situations. Manktelow favoured appointing professional members of the Land Agents Society and the Chartered Surveyors to act on MAF's behalf, on a regional basis. The Permanent Secretary, Donald Ferguson, accepted the principle but opted for using an 'in-house' system rather than outside professionals.<sup>12</sup>

#### IV

MAF established the Central Planning Bureau in offices at 124–128 Cromwell Road, London as part of the General and Intelligence Division of the Ministry, which was in the charge of Manktelow and Engholm, at this time Assistant Secretary and Principal respectively.

Thus, it was in March 1942 that Stamp was approached to take on the job of overseeing this nascent organization and developing its guiding principles. It was six months before he formally took up the post as Chief Advisor in Rural Land Use as it was felt necessary for the Scott Committee's Report to be published first. In fact, he spent much of the summer of 1942 touring the country on 'fact finding' visits to assess the situation in the field. He worked part-time, three days a week and had responsibility for the London Region as well as the overall management of ten Regional Rural Land Utilization Officers (RRLUOs), one for each of the Civil Defence Regions in England and Wales, and the headquarters cartographical and research staff. The RRLUOs were also part-time, working for only a 'nominal fee' to cover expenses. They were selected for their local knowledge and contacts – several were land agents for large landowners (e.g. F.L. Hayward, agent to the Duke of Northumberland and A. Garrard, agent for the government's Duchy of Lancaster estates). Others were working farmers (e.g. Peter Scott for the Wales region and C.B. Norbury, a fruit farmer, for the West Midlands region). Stamp claimed that they formed a strong team, bound together by their enthusiasm for a common cause that they all believed in. But not everything went well in selecting the RRLUOs. Stamp travelled to East Anglia to interview one name suggested by the ministry

<sup>12</sup> TNA, MAF 48/478, file minutes and correspondence.

only to find that he had been dead for two years! Another nominee, recommended by the Lord Mayor of Birmingham, was in fact in jail.<sup>13</sup>

Stamp's post and the organization he set up was given considerable status. He was able to have almost unlimited car travel in the War, had an office on the same floor as the minister and two telephones! The public announcement of the establishment of the CPB was made by way of a press notice and a press conference at which Stamp set out MAF's (and his own personal) agenda. In the press notice, drafted by Engholm, it was stressed that previously planning had been *town planning*, not town and *country planning*.<sup>14</sup>

Stamp worked to produce guidance notes for the RRLUOs, and these were the subject of considerable discussion within MAF. Eventually they were issued to the RRLUOs as two memoranda numbered RLU 1 and RLU 2, the first of a lengthy series of such guidance notes issued over the next few years. The first of what were to become annual conferences, to induct the RRLUOs and obtain their input into the policies and practices of the new CPB, was held over two days in May 1943. This conference was opened by R.S. Hudson, Minister for Agriculture and Fisheries and W.S. Morrison, the Minister for Town and Country Planning, both of whom had seen and approved the policy documents before they were issued. It was noted in RLU 1 that 'the work of RRLU officers will be pioneer work as the close integration of agriculture with town and country planning is a new field'.<sup>15</sup>

Not surprisingly, the policies that were implemented were very much along the lines set out in the Scott report. The RRLUOs had to work on the basis of co-operation and persuasion as they had no statutory powers to back their advice. They were expected to keep a watching brief on their regions and be proactive in making sure that MAF's (i.e. agriculture's) views were taken on board by the planners. With only 11 part-timers (including Stamp), each with other duties, to cover the whole of England and Wales, it is not surprising that a staff of civil servants was gradually built up to support them. Stamp, for example, continued to work for two days per week at the LSE, and was editing reports for the LUS, overseeing the production of LUS maps and continuing the revision of his extensive range of school and university text books. Full-time Assistant Rural Land Utilization Officers (ARLUOs) were appointed, as civil servants, for each region, together with deputies and clerical staff. In London Stamp built up a team of experts, many of whom had contributed to the LUS's county monographs, who could give advice to the regional offices. In addition a mapping section, using some of the LUS staff, in the same way that others were working for the Ministry of Town and Country Planning (MTCP), was also established. Close links were also maintained with the MTCP where Stamp still had an advisor's position and his close colleague and protégé, Christie Willatts, Organizing Secretary of the LUS, headed the cartography section. It was stressed that MAF's work was complementary to and not overlapping with the MTCP's.<sup>16</sup>

The RRLUOs were given a considerable workload. They were expected to liaise with a large number of official bodies in their region, and their first task was to make personal contact

<sup>13</sup> TNA, MAF 48/478, correspondence; MAF 38/471, minute, 14 July 1942; MAF 48/481, RLU 1; Stamp, 'Autobiography', pp. 414–6; Stamp, *Land of Britain*, pp. 442–6.

<sup>14</sup> Stamp, 'Autobiography', p. 415; TNA, MAF 48/478,

correspondence 19 Sept. 1942, 30 Sept. 1942 press notice.

<sup>15</sup> TNA, MAF 48/481; 48/483.

<sup>16</sup> TNA, MAF 48/481; 48/483; Stamp, *Land of Britain*, pp. 442–6.

with all the relevant individuals and authorities and carry out a 'rough survey' to identify any particular problems, such as reconstruction plans for big towns, proposed national parks and proposals for trunk roads. The list of organizations with which they were expected to liaise shows the complexity of the planning processes and the difficulty such a small organization faced in keeping the agricultural interest effectively represented, especially when they lacked any statutory backing for their involvement. Doubtless, there was considerable sympathy and understanding from the planning lobby, as they would have been acutely aware of the short-term needs for increased agricultural output. RRLUOs were required to 'form a closely linked triumvirate supervising planning in the region' by making close contact with Regional Planning Officers of the Ministry of Works and Planning and Divisional Road Engineers of the Ministry of War Transport. The suggested list of other contacts they were expected to work with included local planning authorities, local highway authorities, any independent regional research groups, MAF liaison officers, land commissioners, CWAECs, regional drainage engineers and drainage authorities.

It was hoped that planning authorities would come to seek out the advice of the RRLUOs but it was acknowledged that at first it would be necessary for the RRLUOs to take the initiative in drawing their attention to rural issues. Essentially their first task was one of educating those involved in aspects of planning and reconstruction in the merits of protecting the agricultural estate in order that it would become an automatic consideration built into the early stages of the process. The RRLUOs were expected to be able to resolve many problems themselves but they could draw on the head office technical team, headed by Stamp in London, for help and advice, and it was proposed that each region would build up a panel of technical experts to give advice to RRLUOs and assist in carrying out any required special investigations.<sup>17</sup>

The memorandum RLU 2 is titled 'General principles in country planning' and provides the framework within which RRLUOs were to work. These principles were drawn up 'on the basis of past experience and of a series of test surveys which have been conducted over the countryside by the Chief Adviser'. But it was anticipated that they would have to be varied or added to in the light of further experience.<sup>18</sup> As time went on, specific policies were developed, often through debate at the RRLUOs' conferences, to deal with the situations that were found to be arising as planning schemes were discussed. RRLUOs were to use these policies to guide the proposers of development plans into practices that did the least harm to farmland. An example of the kind of policy that was developed was the 'urban fence', not to be confused with the green belt, to which it is related. The concept was that a line – the urban fence – could be drawn around a town defining where urban influences were dominant. Immediately outside of this urban zone an area of semi-urbanized land could be defined that might, for example, have farmland sandwiched between housing estates. Outside of this zone was rural land where agricultural interests should dominate. Inside the urban fence was the realm of the town planners and any necessary development should take place here, followed by the 'damaged' semi-rural zone already adversely affected by surrounding and adjacent development. The rural zone was to be defended from development unless there was an overriding public interest. Stamp and the RRLUOs adopted a pragmatic approach and accepted that in cases such as the development of

<sup>17</sup> TNA, MAF 48/481, RLU 1.

<sup>18</sup> TNA, MAF 48/481, RLU 2.

Heathrow airport, the pressing need for London to have a major international airport justified the loss of good agricultural land and there was no point in opposing it.<sup>19</sup>

Related to the concept of the urban fence, the RRLUOs also promoted the idea that planners should acknowledge that farms operated as whole units and that their boundaries should be respected. It was not good practice to take half a farm for development or divide a farm with a major road, as the remaining half of the farm would probably cease to be a viable unit. This principle extended to areas of farms that might be of relatively low-grade agricultural land, but such land could play a significant role in the overall management of the farm.

## V

In March 1947 Stamp wrote in the concluding pages of *The land of Britain* that:

It will be clear that many of the lessons gleaned from the work of the Land Utilization Survey were translated into terms of specific recommendations in the Scott Report, and that because there is an obvious logic in so many of the proposals there made they have in the last four years become an automatic part of the routine work of local authorities, local planning authorities and the appropriate Departments of the Central Government.<sup>20</sup>

Thus, he claims that MAF had succeeded in placing the protection of agricultural land as a major consideration in the planning process. With the Agriculture Act and the Town and Country Planning Act, both of 1947, the strong position of agriculture vis-à-vis planning was confirmed. Agricultural land was to be protected from development where possible but the operations of the farmer were largely outside the planner's remit. Whilst Stamp and his team of RRLUOs remained as advisors with a much reduced day-to-day role as policy makers and problem solvers, their work effectively done, the full-time ARLUOs and the regional support staff were absorbed into the Land Commission.

That MAF was able to secure such a strong position for farming interests in the planning system was undoubtedly due in large part to the pragmatic realities involved in feeding the nation in wartime and immediately after. The rationing of food and the constant reminders to 'dig for victory' and 'lend a hand on the land' brought home to a largely urban public the need to ensure the future of agriculture for strategic purposes. But it was the vision and activities of the small policy community in Whitehall – Engholm, Manktelow, Vincent, Scott, Stamp and Reith – that brought about the means by which the wider planning community could be made to acknowledge that the case for the protection of agriculture was central to the 'country' part of town and country planning and should be given strong weighting in any planning decisions. Of this group, Scott and Reith clearly had the widest visions and Engholm, supported by Manktelow and Vincent, had the vision and ability to produce the detailed ideas and to negotiate through the difficult culture of Whitehall departments and personalities. Stamp's experience with the LUS gave him an unrivalled knowledge of the national picture of land use and he was also able

<sup>19</sup> Stamp, *Land of Britain*, p.446. Minutes and supporting papers for the first six conferences of RRLUOs, held between 1943 and 1947, are at TNA, MAF 48/483–

5, 672, 676, 682. See also MAF 48/674 for Engholm's contribution to the urban fence debate.

<sup>20</sup> Stamp, *Land of Britain*, p.448.

to communicate this information, both through the maps produced by his LUS colleagues and to a wider public audience through lectures and journalistic writing. He undoubtedly worked tirelessly on the Scott Committee and played a major part in its deliberations and the drafting of its recommendations, and he continued his commitment into his role as Chief RLUO. However, he is remarkable more for the amount of work he was able to achieve and for the breadth and depth of his knowledge than for ideas and innovations; he made other people's visions come about rather than creating his own. Collectively this small group of somewhat diverse individuals, working through the difficult days of the Second World War, managed to introduce into mainstream policy the claims of agriculture to be pre-eminent in the use of rural land, with effects that have shaped the post-war landscape of Britain to the present day.

# The value of the National Farm Survey and contemporary aerial photographs for environmental history

by Mark Riley and Charles Watkins

## *Abstract*

The National Farm Survey (1941–43) is unparalleled in the level of detail which it contains about the rural landscape in the mid-twentieth century. While recent studies have realised its significance in relation to issues of land ownership, farm mechanization and social history, less attention has been paid to its value as a source for the environmental historian. This chapter considers this potential through three detailed case studies. In conjunction with near-contemporary aerial photographs, the NFS is used to map past land use at the field level. The chapter highlights how such a methodology may offer useful data and insights to support or question current concerns with traditional landscape management.

G.E. Fussell, one of the leading agricultural historians of the mid-twentieth century, described the National Farm Survey (NFS) as a ‘new Domesday’.<sup>1</sup> The records of the survey have now been fully available to researchers for over a decade, and several studies have made use of them to examine wartime farming.<sup>2</sup> The survey is recognized as having enormous potential for the study of many issues, including farm mechanization, land ownership, social history, farm building history, farm size and structure. Less attention however has been paid to its value as a source for environmental history, and its potential relevance to contemporary nature and landscape conservation. The NFS was designed as a record of wartime agriculture, and has been preserved as such, yet it has great potential as a way of examining strictly non-agricultural aspects of rural land use. Today both research and policy focus sharply on the environmental effects of agriculture, with explicit attempts being made to reverse the damage caused by agriculture since the Second World War. Indeed, some policy makers and conservationists are keen to encourage the reversion of large areas of land through the promotion of ‘traditional management practices’.<sup>3</sup> Consequently there is greater interest in data on the

<sup>1</sup> TNA, MAF 38/205, ‘Notes on publicity for Farm Survey’, Nov. 1941.

<sup>2</sup> See, for example, J. Godfrey and B. Short, ‘The ownership, occupation and use of land on the South Downs, 1840–1940: A methodological analysis of record linkage over time’, *AgHR* 49 (2001), pp. 56–78; C. Rawding, ‘Agricultural practices and state intervention during

the Second World War: a case study of south-west Lancashire’, *North-West Geography* 3 (2003), pp. 1–11; N. Walford and R. Burton, *The development of large-scale commercial farming in south-east England* (2000).

<sup>3</sup> DEFRA, *The Countryside Stewardship Scheme and how to apply* (2003). The UK-wide scheme carries the slogan ‘Traditional farming in the modern environment’.



environmental impacts of agriculture and other rural development, reflected, for example, in DEFRA's 'Countryside Information System'.<sup>4</sup>

The data sources available for studying rural change have been reviewed elsewhere.<sup>5</sup> Previous research, for example, has mapped agricultural statistics, although these cannot normally be used at scales less than that of the parish.<sup>6</sup> Systematic mapping of land use in Britain was introduced by the First and Second Land Utilization Surveys (LUS), completed during the years 1931–36, and in the 1960s respectively.<sup>7</sup> These were intended to provide a cartographic base to inform efficient and orderly land-use planning. The first survey identified seven main land-use classes at a scale of 1:10,560 while the second survey was at 1:25,000, with land-use divided into 12 groups with additional categories of transport, industry and derelict land.<sup>8</sup> Due to the changes in categorization and scale, the two surveys are not directly comparable for the assessment of change. A more fundamental criticism is that they were both carried out by school children, under the direction of teachers, many of whom themselves were untrained in land-use mapping.<sup>9</sup> Sinclair further suggests that the several years taken to complete the second survey mean that the areas completed early in the survey may actually have changed by the completion of the survey.<sup>10</sup>

Over the last two decades more data have been collected on land use and environmental change. The Monitoring Landscape Change project (MLC) started in 1986 and used aerial photographs to assess landscape change through an examination of land uses and landscape features.<sup>11</sup> However, this study only covered 2.4 per cent of the land area of England and Wales, and several problems of misinterpretation from aerial photography have been noted.<sup>12</sup> Remote sensing techniques have been employed in the 1990 and 2000 Countryside Surveys.<sup>13</sup> A land cover map was generated by semi-automated mapping from Landsat satellite images, producing land cover maps at 25 m<sup>2</sup> pixels. The data are generalized and this inhibits their use in micro-level studies and in distinguishing certain semi-natural habitats such as rough grass, bog, and hay meadows.<sup>14</sup> More fundamentally, the Landsat satellite from which much of the data is collected was only launched in 1972 so that even if the earliest images could be utilized, they would miss the crucial immediate post-war period.

<sup>4</sup> See [www.ndad.nationalarchives.gov.uk/CRDA/46/quickref.html](http://www.ndad.nationalarchives.gov.uk/CRDA/46/quickref.html).

<sup>5</sup> R. Haines-Young and C. Watkins, 'The rural data infrastructure', *International J. Geographical Information Systems* 10 (1996), pp. 21–46.

<sup>6</sup> J. T. Coppock, *An agricultural atlas of England and Wales* (1964).

<sup>7</sup> L. D. Stamp, 'Land Utilization Survey of Britain', *Geographical Rev.* 33 (1934), pp. 523–44; A. Coleman, 'The second land use survey: progress and prospect', *Geographical J.* 127 (1961), pp. 168–86.

<sup>8</sup> S. Rycroft and D. Cosgrove, 'Mapping the modern nation: Dudley Stamp and the Land Utilization Survey', *History Workshop J.* 40 (1995), pp. 91–105.

<sup>9</sup> R. M. Fuller, J. Sheail and C. J. Barr, 'The Land of Britain: a comparative study of field mapping and

remote sensing techniques', *Geographical J.* 160 (1994), pp. 173–84.

<sup>10</sup> G. Sinclair, *The lost land: land use change in England, 1945–1990* (1992).

<sup>11</sup> Countryside Commission, *Changes in landscape features in England and Wales, 1947–1985* (1990).

<sup>12</sup> A. R. Harrison and R. Dunn, 'Problems of sampling in the landscape', in R. Haines-Young, D. Green, and S. Cousins (eds), *Landscape ecology and geographic information systems* (1993).

<sup>13</sup> C. J. Barr et al., *Countryside survey 1990, main report* (1993).

<sup>14</sup> R. Haines-Young and C. Watkins, 'Rural data infrastructure'; R. G. H. Bunce, *Measuring change in British vegetation* (ECOFAC research report 2, 1999).

## I

In this chapter we consider how the NFS, carried out to assess the ability of British farms to produce foodstuffs, may add crucial dimensions to these existing data sources. The most useful aspect of the NFS and its accompanying documents is that they offer data at the farm level, with individual NFS returns for each holding in the country, the June 1941 census return for the holding and accompanying map of the holding boundary based on the county series Ordnance Survey maps.<sup>15</sup> The NFS return offers important environmental data in relation to cropping patterns, weed infestation, land dereliction, the use of organic and artificial fertilizers, and details of land and crops planted as part of the 'plough-up' campaign. The accompanying June 1941 census further adds useful data relating to land use, stocking and employment across the farm. Although these latter data are available at the farm level, there is no spatial reference, so that land areas are given as total acreages, rather than being linked to particular fields. This is why combining the NFS data with near-contemporary aerial photographs is such a valuable exercise.

The British Royal Flying Corps first took aerial photographs for reconnaissance in the First World War. These are recognized as extremely valuable in identifying historical land use and landscape features.<sup>16</sup> Fuller, considering land use change in Lincolnshire, noted that aerial photographs can be used to locate cereals, root crops, short-term grassland, long-term grassland, heathland, deciduous woodland, coniferous woodland, riparian areas, open water, and built-up areas. Ghaffar and Robinson, looking at more specific features, highlight their utility for mapping field boundaries, paths and roads, and buildings; and other features such as ponds, depending on photo quality.<sup>17</sup> In this study we have used aerial photographs as close to the date of the NFS as possible to attempt to reconstruct land use and landscape features on three case study farms.

Why is the field-by-field identification of crops or land management in the early 1940s interesting? First, it enables us to look more precisely at the management of farms at a key transitional point in the modernization of agriculture. The 1940s saw the inception of the modernization of agriculture which transformed the nature of the countryside in the 1950s and 1960s, and the NFS catches this pivotal moment. Secondly the NFS data, particularly when used in conjunction with near-contemporary aerial photographs, may provide field-by-field data on past land management of value for current agricultural policies. There is a present desire to move back to a more 'traditional' landscape, and the NFS data may be used to gain a clearer understanding of the character and management of the traditional landscape in the largely pre-mechanized and pre-subsidy period by offering farm-level data on land use. Moreover, an aim of this current policy trend is to 'restore landscape features which have been lost'.<sup>18</sup> Here the

<sup>15</sup> See Short *et al.*, *National Farm Survey*, pp. 113–42 for a detailed description of the NFS archives and their content.

<sup>16</sup> C. Nesbit Roy and J. Eggleston, *Eyes of the RAF. A history of photo-reconnaissance* (1996).

<sup>17</sup> R.M. Fuller, 'Historical aerial photographs as records of land-use changes: a case study of Ancaster and

Normanton parishes, Lincolnshire', *East Midland Geographer* 8 (1985), pp. 218–26; A. Ghaffar and G. M. Robinson, 'Restoring the agricultural landscape: the impact of government policies in East Lothian, Scotland', *Geoforum* 28 (1997), pp. 205–17.

<sup>18</sup> DEFRA, *England Rural Development Plan, 2000–2006* (2000), p. 163.

NFS may make an important contribution in giving baseline data for the extent of such features in the mid-twentieth century. This may be particularly important for the study of grassland, an issue we deal with specifically in this chapter. As Blackstock *et al* recently noted in relation to grassland conservation, 'locating, describing and evaluating the dwindling cover has been a major challenge for conservationists'.<sup>19</sup>

In the following sections we consider three questions in relation to the NFS data: first, can the NFS data and maps be used to reconstruct land use at the field level? Secondly, does the combination of NFS data with near-contemporary aerial photographs provide additional insights? And thirdly, what use may this data source hold for current conservationists? In order to investigate these issues at the micro-scale, three case study farms were selected which reflect some of the landscape conservation priorities of current policy. The first farm is in Herefordshire and contains cider apple orchards and neutral grassland which are now conservation priorities in the area.<sup>20</sup> Secondly, a case study is taken from the Peak District, a pastoral upland area prioritised for grassland and moorland conservation, and where particular attention has been paid recently by the National Park Authorities to the conservation of hay meadows. The third case study is from West Sussex, where the farm selected incorporates lowland river valley grazing land.<sup>21</sup>

## II

The first case study is Tipsgrove Farm in Herefordshire, a 53-acre tenanted holding mainly in the parish of Pixley, four miles west of Ledbury. The farm is on heavy land characteristic of the Herefordshire Plain and derived from Old Red Sandstone. The bundle of NFS documents available for the parish in The National Archives includes the farm boundaries, marked on a base map, in this case the county series 1:2500, first surveyed in the 1890s, revised in 1926 and printed in 1928.<sup>22</sup> There is the complete agricultural census return for 4 June 1941. In addition there is the Primary Return which in this case was collected on 6 March 1942 and completed only a few days later on 9 March, but the boundary mapping was not done until October 1942. The closest obtainable aerial photograph from the RAF is dated 11 July 1946. If we consider this apparently fairly coherent set of data closely, we can see that the data were collected over a 20-year period (1926–46). Even within the more precise confines of the NFS material, the data were collected between June 1941 and October 1942, which means that they can refer to two growing seasons. Clearly the precise dates need to be considered very carefully if land use and cropping is to be considered field-by-field. In addition care has to be taken with the field

<sup>19</sup> T.H. Blackstock, C.A. Rimes, D.P. Stevens, R.G. Jefferson, H.J. Robertson, J. Mackintosh and J.J. Hopkins, 'The extent of semi-natural grassland communities in lowland England and Wales: a review of conservation surveys, 1978–96', *Grass and Forage Science* 54 (1999), p.1.

<sup>20</sup> The UK Biodiversity Action Plan defines neutral grassland as 'all semi-improved and unimproved grassland occurring on circumneutral soils. It includes enclosed and managed grassland such as hay meadows

and pastures, a range of grasslands which are inundated with water periodically, permanently moist or even waterlogged grassland, where the vegetation is dominated by grasses, and tall and unmanaged grassland'. See [www.ukbap.org.uk/lbap.aspx?id=458](http://www.ukbap.org.uk/lbap.aspx?id=458) [accessed November 2006].

<sup>21</sup> Peak District National Park Authority, *Meadows beyond the Millenium* (1998).

<sup>22</sup> TNA, MAF 32/21/160; MAF 73/17.

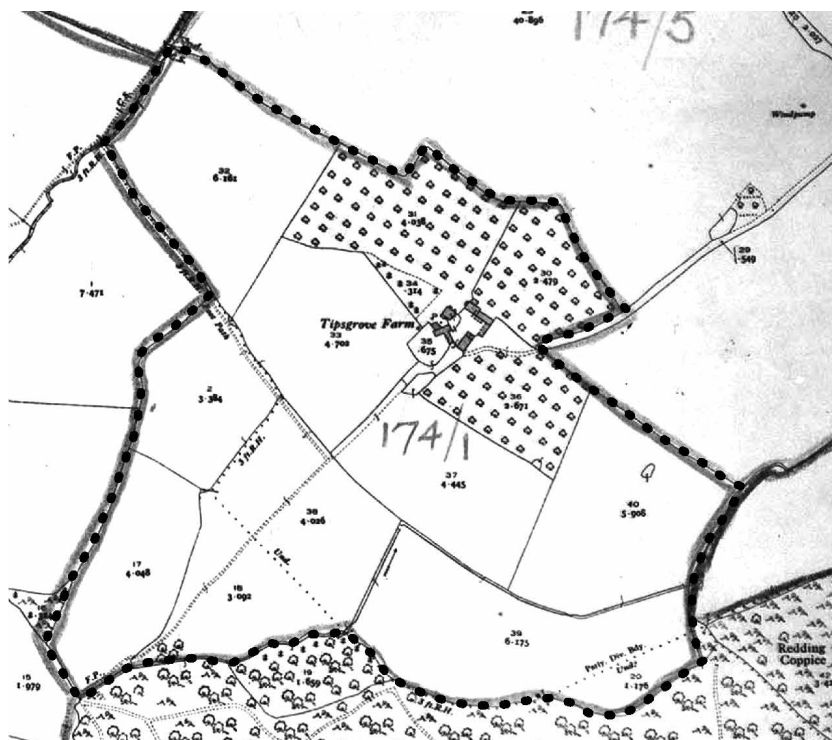


FIGURE 15.1. Tipsgrove Farm, Pixley, Herefordshire: the National Farm Survey map, October 1942.

Source: TNA, MAF 32/21/160; MAF 73/17. Reproduced by permission.



FIGURE 15.2. Tipsgrove Farm, Pixley, Herefordshire: the July 1946 aerial photograph.

Source: Herefordshire Libraries, 106G/UK/1652/1223. Reproduced by permission.

acres given in the different sources. On this one farm, there are examples of a field which has two OS acreages because it is bisected by a parish boundary; a hedged field which clearly has two distinct crops growing in it in July 1946, and small differences between OS field acreages, Census acreages and the Primary Return.

The enormous advantage of the NFS data over all previous national agricultural data series is that it is possible to populate the farm with people, stock and crops. By combining the information from the Primary Return and the Census, we find that the 53 acres at Tipsgrove were worked and managed by Mr Cox and three other full-time family workers, two men and two women. The farm is rented from a small local landowner<sup>23</sup> and Mr Cox is classed 'A'. The 53 acres is mainly grass: there are 20.5 acres of permanent grass for grazing and 18 acres of permanent grass for mowing. In addition there is a small arable acreage made up of four acres of wheat and half an acre each of potatoes, mangolds and fodder turnips with swedes. There are also nine acres of orchards with crops, which is likely to be grass in the local context, but this is not certain from the NFS material. The stock consists of 24 cattle of different kinds which are for milking and rearing; 45 sheep, 20 of which are ewes for breeding; 18 pigs and 103 poultry. There are also 10 horses, five of which are specifically for agriculture, and one 20 hp Fordson tractor. To what extent can this historical repopulation of the farm assist in gaining an understanding of its land use field-by-field?

If we consider the NFS material first, this states that there are nine acres of orchards with crops, and there are nine acres of orchards marked on the OS base map, so we can be fairly certain, even with a 16-year gap between them, that the two pieces of data refer to the same fields. However, we cannot be sure whether the 'crops' mentioned are grass for mowing or some arable crop. It is more difficult to 'place' the 5.5 acres of different arable crops. There are a number of fields of about four acres which could be where the wheat was growing in 1941, but no way of selecting the correct one. Moreover, there is the strong possibility that such crops could be grown in parts rather than whole fields. Can we do better with the distinction between mowing grass and permanent grass? It is possible to make a case that fields with ponds in them are more likely to be permanent grass, and that mowing grass may be nearer brooks and streams, but this is rather speculative. Much greater accuracy can be achieved with the plough-up because the precise OS field numbers, in this case Field 17 and Field 40, are given as ploughed-up in 1940 and 1941. However, even here there is some uncertainty, as for example only 1.5 acres of the 5.9-acre Field 40 was ploughed-up, and this section cannot be deduced from the NFS material on its own. So, in conclusion, a close interpretation of the map, census return and Primary Return for a consolidated, relatively simple farm of only 53 acres, although giving a very full picture of farm activities and management, does not allow precise field-by-field land use to be identified securely.

Does the addition of information from the July 1946 aerial photograph help? Turning first to the orchards, we can see that the orchards are not particularly heavily stocked with trees, and that the associated crop is grass. Thus the nine acres of 'orchard with crop' can be added to the 38.5 acres of other grassland, giving a total grassland acreage of 47.5, which is 90 per cent of the farm area. Secondly, it is possible to distinguish quite clearly the grass for mowing,

<sup>23</sup> Who lived in Ledbury and owned no other land in Pixley or the surrounding parishes.



because the aerial photograph was taken in early July. Indeed, one field in the south-east of the farm was in the process of being cut when the photograph was taken on 9 July 1946. Thirdly, it is possible to identify the arable fields from the aerial photograph and it is also possible to identify which fields remained ploughed up after the War (Field 17) and had been converted to grass in 1946 (Field 40). In addition, the photograph clearly shows that the ponds shown on the OS map remained ponds in 1946. It also provides information which is not in the NFS material at all, including whether field boundaries are fences or hedges, the number and size of hedgerow trees, and the extent of farm buildings. The day-to-day movement of stock also comes out remarkably clearly in the aerial photographs, and this helps us to distinguish the mowing grass from the permanent pasture. It shows that the core area of the farm, probably including the orchards, was used for permanent grazing while the outer fields were used for mowing. In conclusion, therefore, a close examination of the data for Tipsgrove shows that the combination of NFS material and near-contemporary aerial photographs does allow us to identify the precise land use of the majority of the fields on this farm. In addition to clarifying land use patterns, the vast array of data also provides insights into day-to-day practical farm management.

### III

Hardingsbooth Farm, Fawfieldhead, was recorded in the NFS as a 113-acre tenanted farm on the Staffordshire-Derbyshire border in the south-west of the Peak District, and the north-east corner of the Staffordshire moorlands. The parish, predominantly on gritstone and shales, extends to over 1450 feet OD, with the resulting landscape consisting of diverse vegetation including, in addition to enclosed grassland, heather and bilberry moorland, rough grazing and acid grassland.<sup>24</sup> The parish was placed within the South-West Peak Environmentally Sensitive Area in 1993. The NFS map for the farm is based on the county series 1:2500 revised in 1910 (1922 edition). The NFS mapping of the holding was completed in 1943, two years after the primary survey field recording, and one year after the completion of the Primary Return.<sup>25</sup> The aerial photograph we have used has a flight date of 11 August 1945.

The 1941 June census returns the farm as comprising 77 acres of crops and grass and 36 acres of 'rough grazing'. Of the grassland, 47 acres was permanent grass for grazing and 23.75 acres permanent grass for mowing. The cropped area consisted of 3.75 acres of oats, 0.5 acre potatoes, 0.25 acre turnips and swedes for fodder, 1.25 acres kale for fodder, and 0.25 acre cabbage for fodder. The farm had 40 cattle (with 16 cows and heifers in milk), 19 sheep, 100 poultry and three horses. This acreage of 113 acres differs from the areas on the accompanying base map which total 106 acres. In relation to our first question, the map itself offers some pointers in understanding the layout and management of the farm. In particular, the farm has steep valley land falling to the River Manifold which runs through the farm, and at the time of mapping this land constituted an area of bracken, heathland or rough grassland at the centre of the farm. This can be linked with some certainty to the 36 acres of rough grazing returned in the June census.

<sup>24</sup> Classifications based on the land cover classification carried out as part of the monitoring scheme of the South-West Peak ESA: MAFF, *Environmental Monitoring*

*of the South-West Peak ESA, 1993-1996* (1997).

<sup>25</sup> TNA, MAF 32/593/56; MAF 73/37.



FIGURE 15.3.  
Hardingsbooth Farm,  
Fawfieldhead, Staffordshire:  
the National Farm Survey  
map 1943.

Source: TNA, MAF  
32/593/56; MAF 73/37.  
Reproduced by permission.

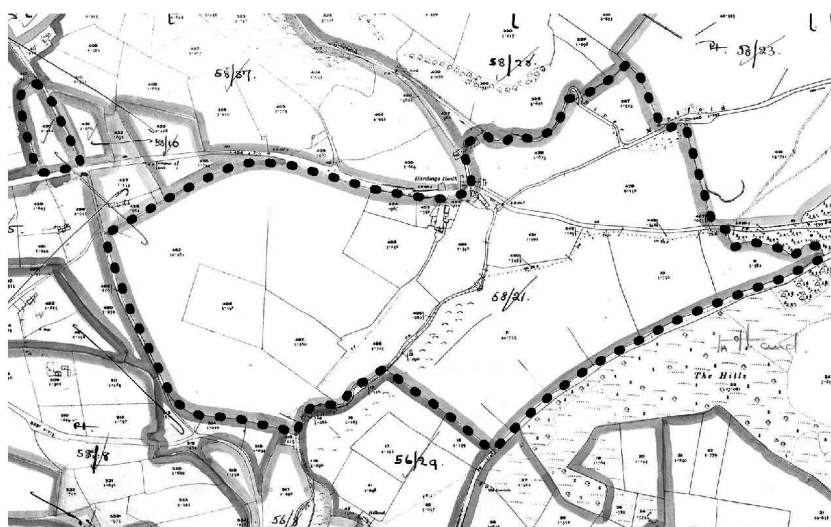
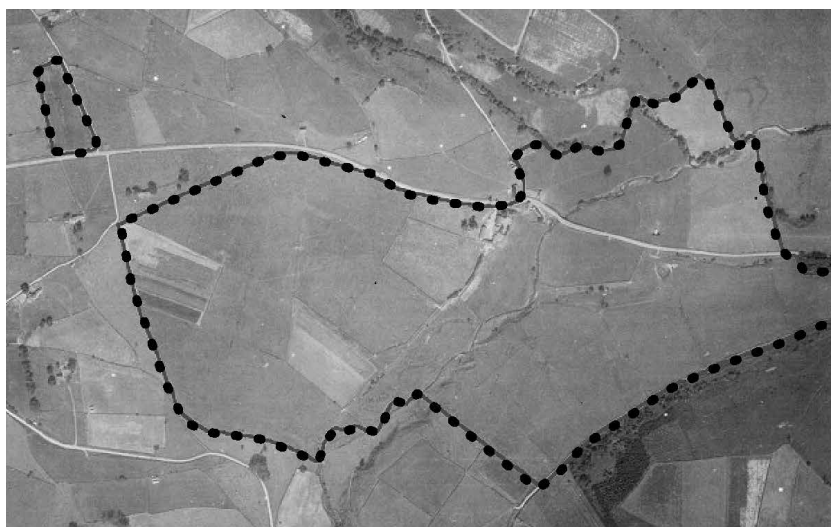


FIGURE 15.4.  
Hardingsbooth Farm,  
Fawfieldhead, Staffordshire:  
the August 1945 aerial  
photograph.

Source: Staffordshire  
Record Office, 106G/  
UK/646/2103.  
Reproduced by permission.



As there was no plough-up recorded for this farm, no field numbers are given from which to locate cropped areas. The base map also shows a number of enclosed fields around the farmstead, which may be an indicator of more improved (either permanent pasture or meadow) land, but overall few definitive statements can be made in this instance without considering the NFS material alongside the aerial photograph. This shows clearly a cropped area comparable to the 6.25 acres of cropped land recorded in the census return (part of OS 482). It is possible to identify a partially-cropped plot in the northern end of the field, which is possibly oats being cropped for the feeding of horses on this non-mechanized farm. Of the 23.75 acres of permanent grass for mowing, two areas which have been cut by the flight date are visible from the aerial photograph on the north-east and south-west of the farm (totalling approximately 10 acres). It is possible that two further areas which are not shown as cut on the aerial photograph were cut at a later date. The first is the isolated field near the main holding, which is likely to have been mown, as

it falls on relatively flat ground; the second is the land adjacent to that mown at the north east of the farm, with the lack of a visible boundary between this and the mown land suggesting that this was also cut for hay.<sup>26</sup>

The 36 acres of rough grazing returned in the census can be matched to that already noted on the base map, and the remainder of the steep land adjacent to the river on the north and south side, with the exception of Field 431, which appears lighter on the aerial photograph and has a boundary separating it from the rough grazing. The aerial photograph shows that there are no boundaries between the rough grazing and the river, with the primary NFS return confirming that water for stock is provided from open watercourses which suggests that this whole area was used in an open-plan grazing system. The 47 acres of grazing is consequently most likely to be the remaining land to the north of the river. The presence of a dairy herd, recorded in the June census return, together with evidence of grazing from aerial photographs, suggests that the fields lying next to the farm buildings were used as overnight accommodation land for milk cows. The aerial photograph indicates that the larger area of pasture land to the west is run as one complete block, with no visible field boundaries, and that it was grazed to allow access to the open watercourse to the south for stock to drink.

#### IV

The third example is Castle Farm, Amberley, four miles to the west of Storrington in West Sussex. The parish has some valley land next to the River Arun and some chalk downland. The base map is the county series 1:2500 revised in 1910 (1914 edition) which means there is gap of 32 years between the base map and the NFS primary field recording, which was undertaken on 10 February 1942. Unfortunately none of the Sussex NFS maps are dated and we are therefore unsure when the farm boundary for Castle Farm was mapped.<sup>27</sup> The aerial photograph was taken in 1949, later than our two previous examples. The NFS shows that Castle Farm was 121 acres in extent and was owned and run by the Hon. Mrs Emmet. Evelyn Elizabeth Emmet (1899–1980), later Baroness Emmet of Amberley, was a Conservative politician who before the War was an active member of London County Council. She married Thomas Addis Emmet, an artist, of Amberley Castle, Sussex, in 1923 and they had four children. He died in 1934 and she did not remarry; ‘she bred cattle and worked on the restoration of Amberley Castle. In 1936 she was made a JP. From 1938 to 1945 she was the county organiser for the WVS in Sussex’.<sup>28</sup> The NFS characteristically classed her as a ‘B’ farmer due to ‘lack of experience’. There were seven full-time and two casual workers, and the farm business included a milk round.

Taking the NFS material first, the 1941 Census shows that the majority of the farm is grassland, with 55 acres for mowing and 42 acres for grazing. In addition there are 1.1 acres of potatoes and 1.56 acres of horticulture. The stocking consists of 53 cattle (including 31 cows and heifers in milk) three horses, 47 poultry and there is one 11 hp Fordson tractor. Although the

<sup>26</sup> Cutting for hay in late August was a common practice in many areas of the Peak District at this time. M.N.Riley, ‘Changing farm practices and nature conservation: hay and silage production in the Peak District

since 1940’ (unpublished PhD thesis, University of Nottingham, 2003), p. 189.

<sup>27</sup> TNA, MAF 32/994/15; MAF 73/42.

<sup>28</sup> ODNB, ‘Emmet, Evelyn Violet Elizabeth’.

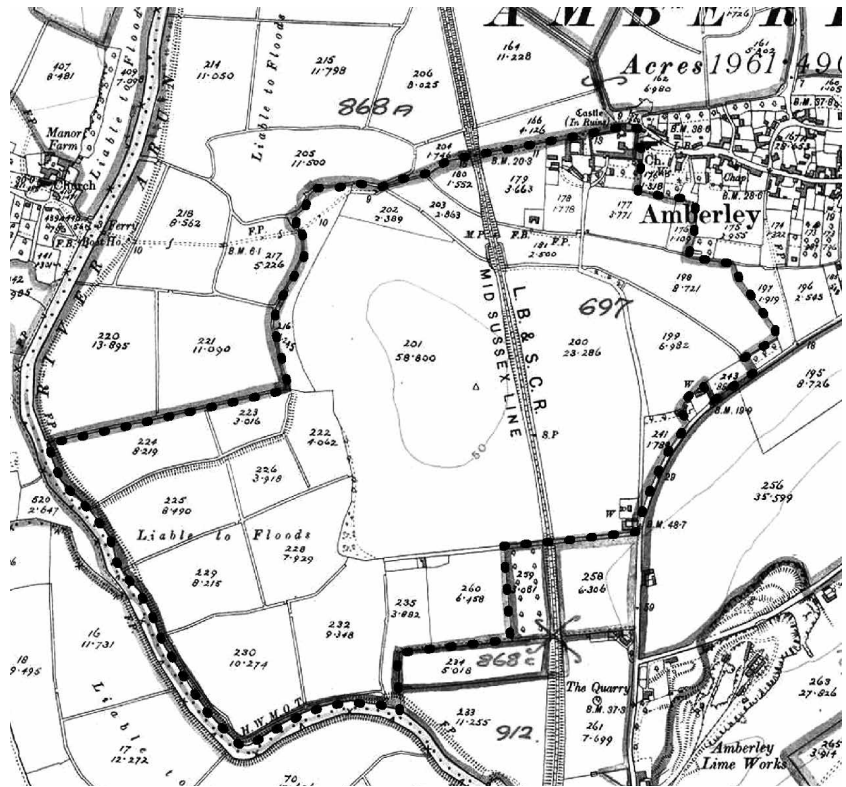


FIGURE 15.5. Castle Farm, Amberley.

Source: TNA, MAF 73/42/50; MAF 32/994/15. Reproduced by permission.

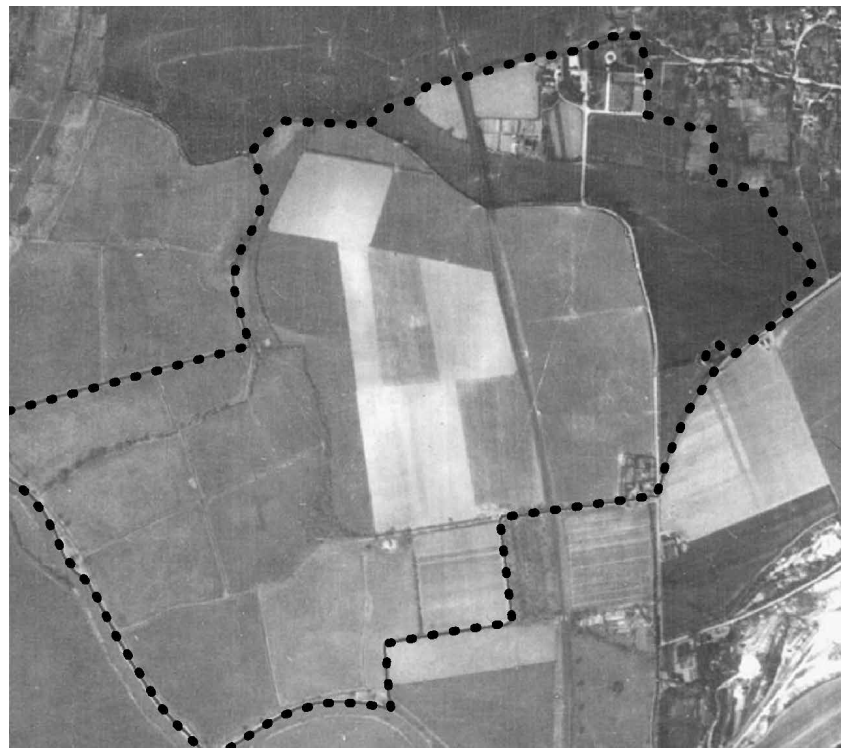


FIGURE 15.6. Castle Farm, Amberley, Sussex: the 1949 aerial photograph.

Source: South Downs Joint Committee, 3G/TUD/UK/157/5089. Reproduced by permission.

fact that this is mainly a dairy farm consisting of grassland should make the identification of the land use of individual fields rather simple, in practice this farm is very difficult to interpret. This is because there is a significant inconsistency between the farm area given in the census return of 4 June 1941 (100 acres) and that given in the Primary Return of 10 February 1942 (121 acres). The difficulty is made worse when we add up the acreage of the farm from the NFS map (date not given) which is no less than 205 acres! This is a major problem, because from this evidence alone we are not certain whether the farm has doubled in size between 1941 and the date the farm was mapped, or whether different criteria were used to define the farm at different times. The different areas moreover, make it very difficult to use the data to reconstruct land use field-by-field.

One possibility is that the area adjoining the river marked 'liable to floods' on the base map, known as Amberley Brooks, was not included as part of the farm when the survey was carried out. If this area is taken off the farm total, the farm size from the NFS map is reduced to 139 acres, which is still 18 acres more than the area of the farm according to the NFS, but this might be accounted for by the gardens and pleasure grounds around the castle. However, this is guesswork, and the fact that the category 'land on the farm not used for agricultural purposes' was left blank on the Primary Return does not support this line of argument.

Can the aerial photograph help to solve the problem? The first thing that stands out is that several large areas have been cut for hay and these are all part of one 52-acre field. Nearer the river, in the area liable to flooding, it appears that fields have not been cut for hay. This perhaps backs the argument raised above, that this is an area of rough grazing that might have been excluded from the area of the farm in the NFS. The aerial photograph also shows pasture areas located on the side of the railway line nearer to the farm buildings and in a series of smaller fields; it also indicates horticultural areas near the castle. So, the aerial photograph does help in interpretation of the land use of Castle Farm, Amberley, but not conclusively, and further farm or estate records, fieldwork or oral histories, are needed to be certain of its wartime land use. The difficulties of interpretation at this farm are also compounded by the relatively poor quality of the aerial photograph.

## V

At the start of this chapter we asked three questions, and have explored these through the detailed examination of three case studies in the 1940s making use of NFS data and near-contemporary aerial photographs. The first question was whether the NFS data can be used to map land use at the field level. We have shown that although the NFS data by themselves provide an enormously detailed picture of the cropping and farming systems of individual farms in the early 1940s, it is in fact rather difficult to relate the crops and land uses to individual fields. The base maps provide very important contextual material, including farm and field boundaries, but it is not possible to tie crops and different types of grassland convincingly to individual fields. So the answer to the first question is a qualified 'no'. The three case studies have given us a much more positive answer to our second question, namely whether the interpretation of the NFS data in combination with near-contemporary aerial photographs can provide insights. They indicate that there is no doubt that such detailed interpretations can provide extremely useful



and detailed field-by-field data on land use, cropping and farming systems. There are, of course, problems of interpretation and the work is time consuming, account having to be taken of local farming types and conditions. But these studies show that it is indeed possible to reconstruct the cropping and grassland management patterns at a field level in the 1940s.

In relation to our third question, it has been demonstrated here that these data sources collectively offer a significant source for environmental historians. Through the use of selected case studies from different areas of the country, it has been seen that different land-uses can be identified, and important information relating to the management of these uncovered. Such information can be of direct relevance to the current emphasis on landscape and habitat conservation. So, for example, from our case study in the Peak District, the combined sources used here allow us to locate unimproved hay meadows<sup>29</sup> of which, according to recent estimates, over 50 per cent have now been lost through improvement and changes in land use.<sup>30</sup> Locating such meadows not only allows us to gain important baseline data relating to their past quantity and distribution, but could also have a more applied function in locating meadows for current experiments into the possibility of regenerating meadows from the seedbanks of former meadow sites.<sup>31</sup> In our Herefordshire example the data have also been used to locate the now important conservation habitat of orchards. The potential value of the data however lies not just in locating orchards, but offering valuable insights to their form and management. Recently the inclusion of payments for orchards within the Single Farm Payment scheme has brought a debate surrounding the definition of 'traditional' and 'new orchards'.<sup>32</sup> The data discussed here may feed directly into the proposed definition with information relating to siting and size of orchards, type of trees and fruit produced, the grazing of orchards, and the presence of fruit bushes all currently being used by DEFRA to define which orchards are eligible for grant payments.<sup>33</sup> In our example from Sussex it has been possible to locate chalk downland, which is now central to the conservation priorities of the area. Using the accompanying June census it is possible to calculate stocking densities on this land and directly inform the discussion of, and indeed call into question, the stocking rates and types of grazing which are now deemed desired and 'sustainable'.<sup>34</sup>

Through these selected case studies we have shown a range of the ways that the NFS and accompanying data are of great importance in discussing the environmental history of England and Wales. There exists enormous potential to link this material with other sources of information, including oral histories, to provide a rich and informative social and environmental geography and history of mid-twentieth century agriculture.<sup>35</sup> All this raises a final additional

<sup>29</sup> The NFS material shows that no inorganic fertilizer was used on the farm, and that no ploughing or reseed-ing had taken place.

<sup>30</sup> Peak District National Park Authority, *Meadows beyond the Millenium* (1997).

<sup>31</sup> M.H. Losvik, and I. Austad, 'Species introduction through seeds from an old, species-rich hay meadow: effects of management', *Applied Vegetation Science* 5 (2002), pp.185–94.

<sup>32</sup> T.P.Milsom, D.G.Garthwaite, D.R.Crocker and J.D.Hart, *Developing criteria for eligibility of traditional orchards for the single farm payment* (DEFRA, 2005).

<sup>33</sup> *Ibid.*, p. 12.

<sup>34</sup> DEFRA, *The South Downs ESA* (2001).

<sup>35</sup> See, for example, M.N.Riley, 'Ask the fellows who cut the hay: farm practices, oral history and nature conservation', *Oral History* 32 (2004), pp. 45–53.

point, namely whether this ability to repopulate the landscape with people, stock and crops demonstrated here should be used to support or question current concerns with traditional landscape management. At one level, for example, the NFS and aerial photographs data could be used as a model for the reconstruction of a past landscape, just as equivalent data could be used to restore an historical monument such as a church or tithe barn. At another level, the data could be used to examine critically the way in which stocking rates of cattle, sheep and horses, and the number and disposition of different types of semi-natural habitat are used as a basis for making public payments to farmers in the interests of the conservation of nature and landscape and agricultural sustainability.



# The National Farm Survey and the tracing of post-war farmers' movements on the South Downs\*

by Nigel Walford

## Abstract

Restructuring of agricultural holdings marked the decades after the Second World War, as parcels of land or whole farms changed hands. The outcome of this process was a decrease in the number of farms and an increase in their average area. This chapter examines the utility of starting with the National Farm Survey as a statistical population of farms from which to trace subsequent changes in farm occupation using electoral registers. It draws on research tracking farm families and farms on the South Downs from the early years of the War up to the present day.

The responses of farmers to changes in agricultural policy emanating from national governments and latterly the European Union in the post-war era have received considerable attention in the rural studies' literature since the mid-1980s. However, there have been relatively few attempts to make connections between this period of agricultural upheaval and the era of industrialization and modernization that occurred during the Second World War and in the decades immediately following. The changes taking place during these decades are commonly referred to as having permeated a 'productivist' ethos through the farming and policy-making communities.<sup>1</sup> Although some commentators have viewed recent changes as signifying a transition to 'post-productivism' or multifunctionality, they are also associated with the political response to a mounting crisis in the industry, as expressed in terms of overproduction, spiralling support costs, environmental damage and a lack of confidence in the quality of 'standard' food output.<sup>2</sup>

A number of anthropologists, sociologists and human geographers undertook studies of social

\* The author gratefully acknowledges the financial support of the British Academy for a research award entitled *An assessment of archival sources for monitoring the occupancy of agricultural land in south-east England* (Ref. SG-31506).

<sup>1</sup> David Symes, 'Changing gender-roles in productionist and post-productionist capitalist agriculture', *J. Rural Studies* 7 (1991), pp. 85-90; Mark Shucksmith, 'Farm household behaviour and the transition to post-productivism', *J. Agricultural Economics* 44 (1993), pp. 466-78; Philip Lowe, Jonathan Murdoch, Terry Marsden, Richard

Munton and Andrew Flynn, 'Regulating the new rural spaces: the uneven development of land', *J. Rural Studies* 9 (1993), pp. 205-22.

<sup>2</sup> Brian Ilbery and Ian Bowler, 'From agricultural productivism to post-productivism', in Brian Ilbery (ed.), *The geography of rural change* (1998), pp. 57-84.

life in the post-war countryside.<sup>3</sup> These studies were located in various settlements of upland and lowland Britain possessing contrasting historical and agricultural traditions. They charted the detail of local change, which Frankenberg later placed in the broader context of the evolving social life of towns and countryside.<sup>4</sup> Although 'farming formed the major economic base' of settlements with low population densities and in comparatively isolated locations, the changes initiated during the War and subsequent decades eventually led to farming's decline as the economic mainstay of many rural communities, even if the artefacts and environmental features (buildings, fields, crops and livestock) of agriculture continue to dominate the landscape.<sup>5</sup> The collection of rural community studies of the 1950s and 1960s perhaps inevitably led other commentators to tease out the strands of rural social and economic life that contrasted with larger towns and cities. The sets of variables distinguishing rural and urban conditions of particular relevance to the present study are the high levels of direct employment in farming and forestry and stronger ties of kinship and communitarian ideals. As Frankenberg commented, 'The man who refuses to help, or for that matter be helped, is opting out of society and condemning himself to social isolation.'<sup>6</sup>

The involvement of policy-makers in the direction of British agriculture pre-dates the post-war 'productivist era' with the introduction of marketing boards in the 1930s and the onset of state surveillance of the industry during wartime.<sup>7</sup> In the context of the present study it is notable that Nalson regarded the system of subsidizing farm incomes through price support measures and the Small Farm Grant Scheme of the 1950s and 1960s as bolstering family farming rather than leading to a rational diversion of social capital into alternative sectors of employment. The price support measures encouraged intergenerational succession on family farms and the grants acted as a disincentive for smaller full-time farmers to withdraw from the industry. He argued that two alternative strategies existed: either to allow the process of 'agricultural self-destruction' to run its course with the attendant human, economic and social costs, or 'to subsidise mobility of farm people rather than to subsidise farming directly'.<sup>8</sup> In the event the number of farms and farm families declined, although with some polarization towards the upper and lower ends of the size spectrum.

The present chapter engages with these issues by examining the persistence of farm families on agricultural holdings in parishes across the South Downs in West Sussex during and after the Second World War. The analysis begins in the late 1930s, when non-farm sources of income were already significant for many farm families and their communities.<sup>9</sup> The chapter also considers whether the quality of management, size of business, family structure, tenure and

<sup>3</sup> Alwyn D. Rees, *Life in a Welsh countryside: a social study of Llanfihangel yng Ngwynfa* (1951); W. Williams, *The sociology of an English village: Gosforth* (1956); J. Littlejohn, *Westrigg: the sociology of a Cheviot parish* (1963).

<sup>4</sup> Ronald Frankenberg, *Communities in Britain: Social life in town and country* (1966).

<sup>5</sup> Hugh Clout, *Rural geography: an introductory survey* (1972), p. 35.

<sup>6</sup> Frankenberg, *Communities in Britain*, p. 37.

<sup>7</sup> Brian Short and Charles Watkins, 'Prelude to modernity', in Nigel Walford, John Everitt and Darrell Napton (eds), *Reshaping the countryside: perceptions and processes of rural change* (1999), pp. 13–23.

<sup>8</sup> J. S. Nalson, *The mobility of farm families* (1968), p. 241.

<sup>9</sup> Short and Watkins, 'Prelude to modernity', pp. 13–23; Guido van Huylenbroeck and Guy Durand (eds), *Multifunctional agriculture: a new paradigm for European agriculture and rural development* (2003).

system of agricultural production prevailing on farms in the years immediately before and after the War predisposed the farmers and succeeding generations of their families to survive in the industry and continue occupying their wartime holdings during the post-war decades.

## I

Among the significant outcomes of agricultural restructuring during the post-war decades were a decline in the number of farmers and farm holdings, and an overall increase in average farm area. Farms in England and Wales almost doubled in size between 1941 and 1998 (82 acres to 153 acres) with a similar increase in south-east England. These aggregate increases are the consequence of flows of farmers and farm businesses entering, continuing in and exiting the industry, flows which are underpinned by the decisions of individual farmers and their families. Such decisions are often associated with the presence of offspring who are likely to succeed to the management of their parents' (typically father's) farm or to become established on a different holding. The study reported here, through examining the utility of two key sources of information on wartime farming, also points to the need for a detailed exploration of the reasons why farms developed in different directions, and of survival and succession processes, involving a more qualitative approach than in the research presented here.

Before outlining the methodology of the study and details of these data sources, we need to deconstruct these processes of occupier change and to consider farm occupation in relation to land ownership. There is a great temptation, evidenced in some contemporary farming studies with a relatively short-term temporal horizon, to simplify the structure of agricultural land ownership and occupation by equating one farmer and his or her family and household with a single farm and farm business. However, comparatively less attention has been paid to links between farm family composition and the tenancy of agricultural land, which raise a number of legal, administrative, managerial and sociological issues about what constitutes a farm.

It is helpful to distinguish between an agricultural holding, commonly referred to as a 'farm', a 'farm' business and a 'farm' family or household. In simple terms a farm is a legal entity comprising an area of land together with *in situ* structures (buildings, roads, fences, etc.) to which the owner has title, and such freehold property may be owned outright or subject to a loan of borrowed capital. This legal definition of a farm also ties in with the definition of an agricultural 'holding', possessing a county, parish, holding (CPH) number and used by government and state agencies for administrative and statistical purposes. These numbers can be traced back to the earliest state involvement in collecting information about agriculture in the mid-nineteenth century and the start of the annual Agricultural Census in 1866. The owner(s) and occupier(s) of such a holding may be identical or different, in which case the land may be rented by a completely different family (household), in both instances with or without residential occupation. A 'farm' business is also a legal entity comprising a collection of assets and liabilities that may include ownership or rental tenancy of one or more holdings, and in the latter case there would be a division of capital assets between tenant and landlord (owner). Farm businesses can be constituted in different ways, for example with a farmer acting as a sole trader, with a farmer and wife (or equivalent) forming a financial partnership, with farm partnerships involving siblings or other family members or as one or more

limited companies. Further complexity may arise when a farm business operates with a mixed tenure system involving rental and ownership of different land parcels, which may be further complicated by rental tenancies from a number of landlords and ownership of separate land parcels not themselves constituting a complete agricultural holding. The notion of a 'farm' family or household is another important concept in trying to unravel the potential complexities of agricultural occupation and enterprise. Some studies concerned with 'family farming' have recognized that the issues are invariably more complex from both social and economic perspectives than might be implied by the simplistic association of one family with one farm, particularly relating to questions of the division of work.<sup>10</sup>

Examination of changes in ownership and occupation requires extension of even the simple conceptualization of a 'farm' backwards to some point in time when either a current or former member of the farm family arrived on the farm as owner or tenant. At various stages in the family's occupational history, different parcels of land, business and ownership structures may have existed. Similarly moving forwards into the future from a given point in time involves tracing occupation until the family ceases to have any vested interest in any part of the farm that it, at some time, occupied. Thus, termination of occupation occurs when the family moves to a completely different farm or for whatever reason leaves the agricultural industry. Looking at the question of occupation change over time forces recognition of the fact that what might be treated as a single farm business at one point in time may be the result of the accumulation of formerly separately registered agricultural holdings or parcels of land into an economic unit or business. This process of accumulation and disposal cuts across life-cycle events occurring in the family concerned, the most obvious being the birth and death of family members and the possible branching of the family when offspring form their own sub-units within the extended family structure. The way in which these issues can be unravelled depends upon whether the focus of attention is the transience of the farm as a parcel of land or the farmer and his/her family as a socio-economic unit of the agricultural industry.

A farm not only represents a business asset, but the farmhouse may also provide residence for a farm family, although geographical separation of these functions appears quite common in more recent urban fringe agriculture. As part of the process of agricultural restructuring involving enlargement of agricultural holdings and a reduction in the farmer population, some farmhouses that are surplus to requirements may have been sold off to people from outside agriculture. In these circumstances the agricultural land connected with the farmhouse may well become disassociated from it. Figure 16.1 illustrates occupational and ownership histories for two hypothetical, but nevertheless realistic, farms starting at time period 1 (T<sub>1</sub>). In the first case, at the start the farm has been assembled from two formerly separate holdings owned by the farm family, by T<sub>2</sub> an additional area of rented land has been added. However, by T<sub>3</sub> the two offspring of the farmer A<sub>1</sub> and A<sub>2</sub> have succeeded to their land shares of the farm, with A<sub>1</sub> receiving a slightly larger parcel because it includes tenanted land. Farmer A, now a

<sup>10</sup> Mary Bouquet, 'Production and reproduction of family farms in south-west England', *Sociologia Ruralis* 22 (1982), pp. 227–44; Andrew Errington and Ruth Gasson, 'Labour use in the farm family business', *ibid.*, 34 (1994), pp. 293–307; Neil Ward and Phillip Lowe, 'Shifting values in agriculture: the farm family and pollution regulation', *J. Rural Studies* 10 (1994), pp. 173–84; Clive Potter and Matt Lobley, 'The farm family life cycle, succession paths and environmental change in Britain's countryside', *J. Agr. Economics* 47 (1996), pp. 172–90.

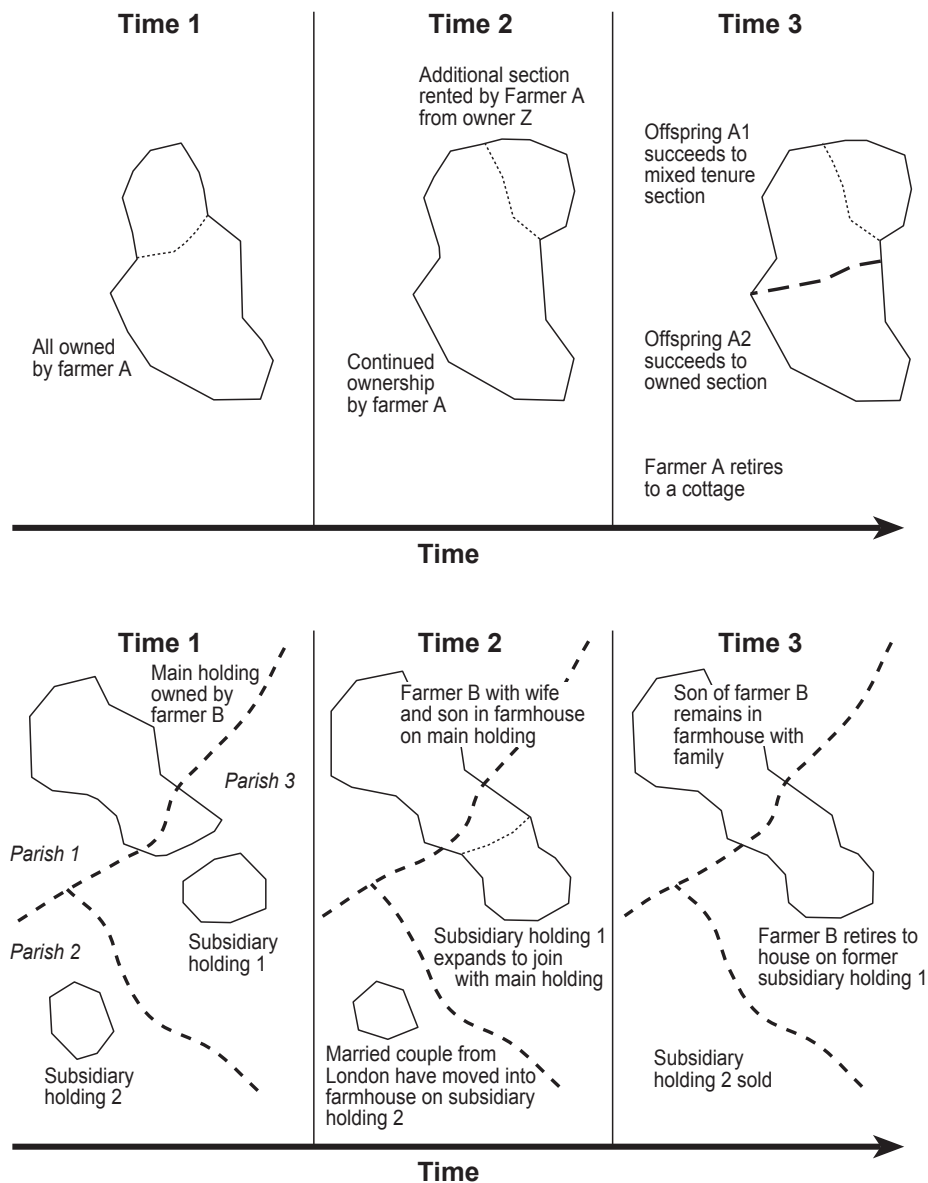


FIGURE 16.1. Modelling ownership and occupancy of agricultural holdings over three time periods

widower, has retired to a cottage. The second scenario is of farm B with three holdings that are worked together but are located in different parishes, although the farmer lives with his wife and young son on the main holding, which straddles the boundary between parishes 1 and 3. By T2 the main holding and subsidiary holding 1 have been enlarged so that they are contiguous and the farmhouse and four acres of land on subsidiary holding 2 have been sold to a married couple from London. By T3 farmer B has disposed of all remaining agricultural land and buildings on subsidiary holding 2 to a neighbour and he has moved with his wife

into a smaller farmhouse on what was formerly subsidiary holding 1. His son and wife now live with their two young children in the farmhouse on what was formerly the main holding. Although hypothetical, these examples illustrate some of the changes that may occur in the occupation and ownership of agricultural holdings, as families and farmland pass through the generations and as the fluctuating fortunes of agriculture encourage or deter the holding and management of agricultural land.

The aim of this study is to explore the feasibility of using existing documentary sources to trace the occupational histories of farms and to examine the process of farm occupancy change within a defined geographical area in the post-war decades and thereby to provide some insights into rates of entry, continuation and exit from the agricultural industry. The chapter focuses on the occupation of farmland and does not address the related issue of tenure, other than as recorded in one of the data sources.

## II

The approach adopted in this study involved tracing the documentary records for families and named farms (holdings) in a series of sources. In the early years of the War (1941–43) the National Farm Survey assessed the condition of the agriculture in England and Wales, and assisted with emergency planning so that, where inefficiencies and mismanagement were seen to exist, agricultural resources could be husbanded to make a more effective contribution to the war effort. The records from the NFS are held at The National Archives, Kew. In theory at least, there are two main types of original document for each agricultural holding: the 1941 Agricultural Census Return, including the Horticultural and Occupation Returns; and the Primary Record (PR), effectively an administrative schedule recording key characteristics about the condition of and services supplied to the holding, and an assessment of the occupier's managerial ability.<sup>11</sup> In cases where a single 'farmer' runs a number of holdings each possessing its own CPH number, there will often be a single PR, even if the holdings are geographically dispersed, possibly even in another county. These documents are organized on a parish within county basis, with separate National Archive document reference numbers for each parish connecting with the CPH references. In some parishes the sequence of farm numbers is discontinuous, which implies that the NFS record was lost, never collected because of small size, or because the holding had ceased to exist as a separate unit, since the CPH numbers are not reassigned. In addition the NFS includes Ordnance Survey maps (typically at 1:10,560 scale) that were annotated with the holding reference numbers and in some cases colourwash shading and other marks to associate particular fields with farms. Combining these elements of the NFS makes it possible to identify the occupiers and owners of farmland and to link this information to the agricultural production. Some deficiencies in the quality of the NFS as a source of information about mid-twentieth century agriculture have been recognized, such as inconsistencies in the organization of the survey between the different County War Agricultural Executive Committees who were responsible for its conduct.<sup>12</sup> However, its potential contribution to provide greater insight into British agriculture in the long-term has

<sup>11</sup> Short *et al.*, *National Farm Survey, 1941–1943*.

<sup>12</sup> Short and Watkins, 'Prelude to modernity'.



already led to its use in a study of large-scale commercial farming in south-east England.<sup>13</sup> The assemblage of NFS documents relating to an individual agricultural holding specifies the name and address of its occupier(s) and owner(s) and thus represents one of the few information sources where researchers can obtain data about identifiable farm units.

The case study area in south-east England covers parishes lying wholly or partly on the South Downs in West Sussex. Short and Watkins, identifying variations in the quality of the NFS between counties, regarded the documents covering the study area as relatively complete.<sup>14</sup> Thus, the NFS has been treated as providing a definitive list of the statistical population of farms and their occupying farmers in the study area at the time when it was conducted. When examining the NFS records two particular problems arise relating to treating the collection as a statistical population: some holdings were in the hands of executors, thus making ownership uncertain, although the identity of the deceased can be determined; and in other cases the CWAEC had already taken over management of the land. Collected over more than two years, the NFS does not always provide a clear snapshot. The majority of the NFS field data collection was conducted between 1941 and 1943, potentially resulting in not only temporal variability in the record for the holdings in a given county or study area, but also with respect to when the separate NFS documents for an individual holding were completed. Nominally the Agricultural Census Returns relate to 4 June 1941, although there is clear evidence of completion and postage well after this date. Obtaining information for the PR often appears to have necessitated multiple visits to a farm and will have been administered at some date during the main three-year information-gathering period. Although the range of dates for the completion of Primary Returns in the South Downs subset of West Sussex ranges from January 1941 to March 1945, the overwhelming majority are dated between January and December 1942 (72 per cent) with a further 19 per cent in the preceding six months.

Electoral registers have been used in demographic research on a number of occasions and to generate samples for political and socio-economic investigations, but there is scant evidence of their acting as an information source in other areas.<sup>15</sup> The British electoral registration system requires local authorities to maintain a register of people who are entitled to vote in elections and these are available for public consultation. These registers comprise a list of the *full* names and addresses of persons eligible to vote by parish or ward. The lists are produced annually as a result of the electoral canvass and relate to persons over 18 years, or who will attain this age

<sup>13</sup> Nigel Walford, 'Productivism is dead: long live productivism', *J. Rural Studies*, 19 (2003), pp. 491–502.

<sup>14</sup> Brian Short and Charles Watkins, 'The National Farm Survey of England and Wales 1941–43', *Area*, 26 (1994), pp. 288–93. Farms whose address was recorded in NFS as within the study area parishes were included, even if some of their land lay beyond this study area. Equally farms whose address was outside the study area parishes, but whose land lay within, were included. The study area covered the chalk downland and adjacent Lower Greensand soils between the rivers Adur and Arun, and comprized the following West Sussex parishes: Amberley, Angmering, Ashington, Bignor, Bind-

erton, Botolphs, Bramber, Burpham, Bury, Clapham, Compton, Coombes, East Dean, Edburton, Findon, Fulking, Greatham, Houghton, Madehurst, North Stoke, Old Shoreham, Parham, Patching, Rackham, Singleton, Sompington, South Stoke, Steyning, Storrington, Stoughton, Sullington, Up Marden, Up Waltham, Upper Beeding, Washington, West Dean, Wiggonholt and Wiston.

<sup>15</sup> A. McCulloch, 'Turnover on the electoral register: implications for the administration of the Community Charge', *Local Government Studies* 14 (1988), pp. 1–4; Paul Longley, David Martin and Gary Higgs, 'The geographical implications of changing local taxation regimes', *Trans. Institute of British Geographers* 18 (1993), pp. 86–101.

during the reference period.<sup>16</sup> It is recognized that some sections of society, possibly associated with certain geographical areas, have recently not only chosen to distance themselves from the democratic process by abstaining from voting, but also by failing to complete the registration process.<sup>17</sup> Despite such difficulties with using electoral registers in contemporary research, it is assumed that the registers represent relatively comprehensive lists of the adult members of society in the decades of the mid-twentieth century. One of the advantages of these registers in respect of tracing farm families over successive years is the possibility of gaining evidence for successive generations of the same family taking over the main farm house.

Starting from the list of farm occupiers obtained from the NFS, the strategy for tracing the farms and farm families first involved attempting to link these to the last electoral register before and the first after the War held in the West Sussex Record Office. The Second World War interrupted the annual electoral registration system; the last year for which registers were published before the War was 1939/40, representing eligible persons present in October 1938, and the first after the conflict was 1946/47, referring to October 1945. The registers for 1947/48 then formed the start of the examination of quinquennial registers up to 1967/68. This search process will obviously fail to trace members of a farm family who migrate from the collection of parishes covering the South Downs study area and so it is not possible to say anything about people who disappear from the parish electoral record, even if they have simply moved over the border. Nevertheless it is possible to infer certain information from the records over a long time period, for example the persistence of male and female names at the same address over 20 or 30 years may indicate that these are a married couple, especially if other adults with the same surname, hypothesized as offspring, cease to be registered at the address.

The essence of the tracing process is to attempt to populate the agricultural holdings over a period of time and thereby to provide some indication of changes in occupation. The connections made in the documentary sources are between farm and family name, in the latter case taking account of forename initials, and therefore should not be taken to imply continued ownership, although this seems likely if the land is recorded as owned in the NFS. The searches through the quinquennial electoral registers involved not only looking for the NFS farmer and other people within the same parish, but also for the name of the farm itself in order to identify instances of where people with a different surname had arrived on the farm. The search also attempted to note cases where daughters of the NFS farmer married and took a different surname, but remained on the farm, by checking first names. Hence, if Sarah Margaret Smith, who was present on an NFS farm in the 1939/40 electoral register, subsequently appeared to become Sarah Margaret Jones then this was counted as continuity of occupation. The combination of a people and farm classification produced the following six groups: (i) person with identical name and farm address as NFS record; (ii) person with surname in common with NFS farmer and farm address as NFS record (includes married daughters); (iii) person with identical name but a different address as NFS record; (iv) person with a different surname at NFS farm address; (v) no record of anyone resident at farm address in NFS record; and (vi) person linked to multiple NFS records.

<sup>16</sup> The age would have been 21 for most of the study period.

<sup>17</sup> C. Smith, 'How complete is the electoral register?', *Political Studies* 29 (1981), pp. 275–8.

The next section presents initial results from repopulating the NFS farms in this way. Although it has to be recognized that inferences drawn from triangulation between the NFS and electoral registers may in some cases be misleading, the method appears sufficiently robust as to allow some reasoned conclusions to be made about movements between agricultural holdings and the occupation of farms in the period immediately before, during and after the War, which can form the foundation for a more detailed in-depth study.

### III

The NFS for the West Sussex South Downs study area records 389 holdings, including 70 where the farmer occupied more than one holding. Of the 389 there were 212, including 26 of the multi-holding farmers, which appear to have been occupied by the same farmer in October 1938 (i.e. the date of registration for inclusion in the 1939/40 ER) according to the Occupation Schedule of the 1941 Agricultural Census (see Table 16.1). It is estimated that there were 93 (36 per cent) of these farms occupied by the same family in 1967/68. The Occupation Schedule comprises one of the three documents that make up the 1941 Agricultural June Census. It was used to collect details about when the present *farmer* had arrived on the farm, if that person had come to occupy the whole of the farm at that time or had subsequently acquired and occupied additional land. In the former case, a single year of occupation was recorded, whereas in the latter, the year of arrival and area of each part were collected separately. The form allowed for up to three such individual land occupations, and there were 11 farms (4 per cent) with three land parcels and 30 (12 per cent) with two that had been acquired separately, although the majority of the farmers (73 per cent) had taken over and retained their farms as a single unit. Using the year(s) of arrival on the land it was possible to estimate length of occupation by working back from 4 June 1941 for the whole or the separate parts of the present farm. The overwhelming majority of both single and multi-holding NFS farmers appeared in the 1939/40 electoral register with the same surname and initials (82 per cent and 86 per cent respectively) and a further 5 per cent in each case were occupied by someone with the same surname but different initials. Overall there was a high degree of continuity between the NFS and 1939/40 electoral register. A similar comparison has been made with the first ER after the War (i.e. family name in October 1945), which indicates 76 per cent of farms where the same family name persisted, in most cases with initials, including some 15 per cent of the multi-holding NFS farmers. Using information from the Occupation Schedule of the 1941 Agricultural Census, it may be estimated that these families had typically been in occupation for some 20 years by the end of the War.

Length of occupation has been estimated from the 1941 Agricultural Census Occupation Schedule for those holdings where either the NFS-recorded farmer or a person with the same surname was present on the farm in the electoral registers until 1967/68 (Table 16.2). In the quinquennial periods up to 1957/58 there was a reasonably consistent 10 per cent decline in the number of families remaining in their NFS holding, followed by a slightly lower reduction to 1962/63 and 1967/68 in the rate at which new surnames succeeded the old. It is uncertain whether the new names were running the farm as a business or occupying the farmhouse as a non-agricultural residence. It is significant that in a number of these cases the name of the farm

TABLE 16.1. Continuity of occupation by farmers. Comparison of the NFS with the 1939/40 and 1946/47 electoral registers in parishes on the South Downs in West Sussex.

	1939/40 Electoral Register				1946/47 Electoral Register	
	A		B		N	%
	N	%	N	%		
NFS farmer on farm <sup>a</sup>	318	82	183	86	261	67
Same surname as NFS farmer	18	5	11	5	36	9
Different surname to NFS farmer	19	5	6	3	17	4
NFS farmer at a different farm					11	3
No record of farm / farmer name	34	8	12	6	64	17
Total	389	100	212	100	389	100

*Notes:*

A. Total NFS holdings where 1941 Agricultural Census Occupation Schedule missing or indicating farmer would not have been present in October 1938.

B. NFS holdings in the study area where the farmer's occupation of the farm in October 1938 would be expected on account of 1941 Agricultural Census Occupation Schedule (i.e. a subset of farms listed under A).

<sup>a</sup> Includes farmers operating more than one holding each of which had an NFS record.

changes from, for example, Church Farm to Church Farmhouse. By 1967/68 nearly a third of the NFS holdings ceased to be recorded as a residential address in the ER. A number of scenarios might account for this situation. One possibility is that a merger of holdings occurred which led to relocation of the farm family to a different farmhouse outside the study area parishes. The name of the holding might have been changed or simply disaffection with electoral registration may have started to occur, although this seems a less plausible explanation. If a farm remains occupied by someone with the NFS recorded surname, then average length of occupation should increase by five years in each of the periods. The failure of this to occur exactly can be caused by some of the NFS farm families 'dropping out' of the record.

It is clearly problematic to speculate about why some farmers and their families should have continued to occupy the same NFS holdings through to the 1960s whereas other families and holdings disappeared from the electoral register or their holdings experienced a change of occupier. However, one approach to considering this question involves looking at whether any of the structural developments that occurred generally in the post-war UK agricultural industry were already signposted in the NFS records. For example, can 'survivors' and 'non-survivors' be differentiated by their numbers of agricultural enterprises as recorded in the 1941 agricultural census, since specialization was a feature of agricultural modernization? The NFS offers some possibilities for tentatively exploring this division between 'surviving' and 'non-surviving farm families.

The NFS surveyors classified farmers into three categories (A, B and C), with the latter representing cases where significant weaknesses in management, lack of investment or personal failings, including old age, were identified. It is perhaps reasonable to suppose that farmers might have been more prone to become 'non-survivors' if they were classified as B or C. Overall, farmers on 62 per cent of the NFS holdings were placed in the A class, 29 per cent in B and

TABLE 16.2. Continuity and change in occupation by NFS farmers, 1947/48 to 1967/68 in parishes on the South Downs in West Sussex.

	1947/48 (%)	1952/53 (%)	1957/58 (%)	1962/63 (%)	1967/68 (%)
NFS farmer in ER and on farm	47	36	28	20	15
Same surname as NFS farmer	9	11	11	11	9
Different surname to NFS farmer	7	13	18	22	23
No record of farm / farmer name in ER	19	22	24	30	32
NFS holding linked with another farm	15	15	15	13	13
NFS farmer at a different farm	4	4	5	5	8
Total holdings	331	332	331	339	337
Estimated length of occupation for previous two farmers:					
N	218	183	151	115	95
Mean (years)	21	25	30	34	39

9 per cent in C. It would appear that in the aftermath of the War, the assigned NFS class had some effect on the probability of a farmer and his (her) family retaining occupancy of the holding (see Table 16.3). Not surprisingly, statistical tests (Kruskal Wallis procedure) become non-significant after 1952/53, by which time NFS farmers in categories B and C may be expected to already have succumbed to the inevitability of exiting the industry as part of the post-war restructuring. Class B holdings were more likely to have become occupied by someone with a different surname and Class B occupiers had most commonly moved to a different address. The small number of Class C farmers/holdings was distributed throughout the different groups.

A second possible reason for survival of families on their NFS holdings relates to the size of farm, with farms that were already large at the time of the NFS potentially more likely to survive than smaller ones. Statistical testing again provides some evidence to support this case (see Table 16.4), with NFS holdings subsequently occupied by the same farmer, or another family member, being considerably larger in terms of their area of crops and grass in June 1941 than those where occupancy change occurred. In contrast, the farmers of the smallest NFS holdings, with approximately half the land area of those where the farm families persisted, tended to disappear from successive ERs. Apparently there was already a question mark over the potential of such holdings to survive as independent businesses during the early war years and it seems reasonable to suggest that their land was absorbed into other farms or ceased to be used for agriculture as further urban development occurred. An examination of the NFS maps in conjunction with later land use data would help to confirm this hypothesis. It would require detailed investigation using retrospective interviewing or access to the agricultural census returns to determine the size distribution of 'survivors' and 'non-survivors' during the post-war decades.

It might be expected that the survivability of occupiers on the NFS farms would be differentiated according to whether they held their farms as owners or tenants, or a combination of both.

TABLE 16.3. Connection between NFS farmer classification and continuity of occupation, 1947/48 to 1967/68 (modal NFS farm class).

	1947/48	1952/53	1957/58	1962/63	1967/68
NFS farmer in ER and on farm	120 (A)	122 (A)	125 (A)	134 (A)	128 (A)
Same surname as NFS farmer	136 (A)	121 (A)	124 (A)	133 (A)	150 (A)
Different surname to NFS farmer	173 (B)	163 (A/B)	154 (A)	146 (A)	140 (A)
No record of farm / farmer name in ER	155 (A/B)	147 (A)	137 (A)	140 (A)	143 (A)
NFS farmer at a different farm	173 (B)	145 (A/B)	130 (A)	116 (A)	110 (A)
Total	267	267	268	274	273

*Note:* Kruskal Wallis test results: 1947/48 significant at  $P < 0.000$ ; 1952/53 significant at  $P = 0.005$  ( $P < 0.000$  is the lowest probability reported by the SPSS software). The Kruskal Wallis test is a form of non-parametric analysis of variance testing whether the grouping of phenomena according to two or more categorical variables is statistically significant. Here the variables are farms according to NFS classification and their subsequent occupancy history. The figures in the columns of the table represent the mean rank position of the farms with the predominant NFS farm class in brackets. The rank positions are produced by sorting the individual farms in each year (e.g. 1947/48) according to their estimated length of occupation and then, taking into account the group to which each farm belongs (e.g. 'Same surname as NFS farmer'), calculating the mean for each group. It is these group means that are presented in the table.

TABLE 16.4. Connection between holding area in 1941 and continuity of occupation by NFS farmers, 1947/48 to 1967/68 (mean area of crops and grass).

	1947/48	1952/53	1957/58	1962/63	1967/68
NFS farmer in ER and on farm	61	58	65	76	73
Same surname as NFS farmer	54	84	68	79	93
Different surname to NFS farmer	40	44	51	48	45
No record of farm / farmer name in ER	33	29	30	29	33
NFS holding linked with another farm	38	37	34	35	36
NFS farmer at a different farm	36	50	52	46	52
Total	389	389	389	389	389

*Note:* The Kruskal Wallis test results are significant ( $P < 0.000$ ) for each period.

Farmers owning their land might be expected to have survived longer on their farms during the post-war era when the pre-war trend for owner-occupying agricultural land gathered pace. The majority of NFS farmers on the South Downs (61 per cent) rented their farms, 31 per cent were owner-occupiers and the balance combined both forms of tenure. The tenant farmers do not appear to have been any less likely to remain on their farms than those who were owner-occupiers, which may be accounted for in part by the tenants having taken the opportunity to purchase some or all of the land they occupied during the post-war decades. The survivability of the three NFS tenure categories of farm family up to the 1967/8 ER is very similar, in the range 42 to 50 per cent. However, there does appear to have been a flurry of tenancy changes among rented farms during the first few years of the War, since there is a statistically-significant



difference when comparing farmer tenure as recorded in the NFS and presence on the farm in 1939/40. Eight per cent of the 162 NFS rented farms, compared with only one per cent of owner-occupied ones, changed hands during the period from October 1939 to the date of their NFS survey.

#### IV

Perhaps it is inevitable when attempting to piece together the threads of agricultural change some 50 years after they occurred using a combination of documentary sources that there should be some uncertainty over the explanation. The results presented in this chapter reflect this uncertainty. They should also be regarded as preliminary in view of the eastward extension of the study area to encompass the South Downs in East Sussex and the scope for further exploration of the NFS documents to explore other possible sources of differentiation between the farmers in respect of the likelihood of their family remaining on the same holding after the War. It has to be recognized that this analysis cannot hope to find explanations for why some farm families survived with continuous occupation on the same farm through to 1967/68 and beyond, whereas others could not be found immediately after the War. Nevertheless, persistent occupation of the same farm and a reluctance to move a different farm within the same collection of parishes do appear to be identifiable traits.

The time-consuming and protracted process of searching through successive electoral registers suggests that such a procedure can only feasibly be undertaken on a case study basis. Nevertheless the present study has demonstrated the feasibility of this approach. The accumulation of further evidence from other areas would contribute to testing the reliability of the results presented here and their possible relevance in other areas, perhaps where population growth and the ensuing pressure for urban development had less impact on agricultural land use in the immediate post-war decades.

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